DOCUMENT RESUME

ED 107 111 FL 006 304

AUTHOR	Moravcsik, Edith A.
TITLE	Agreement. Working Papers on Language Universals, No. 5.
INSTITUTION	Stanford Univ., Calif. Committee on Linguistics.
PUB DATE	May 71
NOTE	71p.
EDRS PRICE	MF-$0.76 HC-$3.32 PLUS POSTAGE
DESCRIPTORS	Case (Grammar); Componential Analysis; *Grammar; Language Patterns; *Language Universals; *Linguistic Theory; *Morphology (Languages); Nominals; Phrase Structure; Pronouns; Semantics; Sentence Structure; *Structural Analysis
IDENTIFIERS	*Agreement (Grammar)

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AGREEMENT*

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ABSTRACT

The paper constitutes an attempt to provide a non-enumerative characterization of agreeing terms and agreement features. The following pertinent statements turn out to be (near) exceptionless: only coreferential terms agree, and for any given language all agreement features are pronominal ones. Four agreement-features -- gender, number, definiteness, person -- are discussed in more detail. For gender and number, a distinction between noun-phrase-internal and noun-phrase-external agreement is made and the generalization is suggested that if agreement takes place in terms of "semantic" rather than "grammatical" gender or number within the noun phrase, then noun-phrase-external agreement is also "semantic". Some informal suggestions are made about how various language (-type) - specific agreement phenomena can be accounted for in terms of assumptions about universal underlying structure.

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* I would like to thank Alan Bell and Joseph H. Greenberg for their attention and advice while I was working on this project; and Alan Bell, Charles A. Ferguson, Fred W. Householder, and Elizabeth C. Traugott for their detailed comments on the draft version of the paper, some of which have been incorporated here; as well as Dal Dresser for her editorial work.

1. Introduction

What is being sought here is an explanation of linguistic facts commonly subsumed under the term "agreement" or "concord". A fact is taken to be explained if it follows from a general statement from which other facts can also be derived: the more additional facts that can be derived from that generalization, the better explained the fact is. Thus, agreement phenomena of a particular language, like any other linguistic fact, can best be explained within the total context of a universal grammar.[1]

In accordance with this principle, as well as with the obvious limitations of such projects, this paper will consider facts of agreement gathered from a number of languages and will attempt to consider these in light of generalizations that appear to be motivated by various other aspects of linguistic structure.

2. What agrees and what is agreed in

As a working hypothesis, we will make the assumption that, given some linguistic domain, such as the phrase or sentence, a distinct and significant relationship exists between two or more phrases if they share some nonphonological feature such that the value of that feature, and some formal marker thereof, co-vary in those phrases.

Let us now attempt to restrict in scope the general terms used in this statement. Leaving aside for the moment what "nonphonological" and "formal marker" stand for, as well as questions pertaining to "domain" and the conditions of "co-variance", we will now attempt to characterize the set of agreeing phrases -- phrases, that is, which enter into agreement relations -- and the set of agreement features which these phrases come to share in various languages.

The following chart provides an enumerative characterization, cast in the language of traditional grammatical descriptions, of grammatical classes and features participating in agreement in various languages. The chart is incomplete regarding both the total sample of languages and any particular language, in that it does not list all grammatical classes and features which participate in agreement in that language. Abbreviations are as follows:

Ca	case	Neg	negativity	S	subject
D	definiteness	O	object	T	tense
G	gender	P	person	$\bar{X}$	not X
N	number	Pd	possessed	?	uncertainty of data
		Pr	possessor		

[1] For this principle of linguistic explanation, see Sanders 1967, section 1.2 and passim.

Category / Language	Noun	Verb	Pred. adj.	Attrib. adj.	Def. art.	Ind. art.	Card. no.	Demonstrative	3rd p. pron.	2nd p. pron.	1st p. pron.	Rel. pron.	Ques. pron.	Ind. pron.	Classifier	Possessive pronoun	Possessed	Other
Ahlõ	G			$\overline{G}$?$\overline{N}$?			G	$\overline{G}$	$\overline{G}$N	N	N							
Ahtena	G	G							NG	N	N							
Akkadian	GNCa	GNP		GNCa			GD	GN	GNCa	GN	NCa		GN	G		G(Pd.) N(Pd. Pr.) P(Pr.)		
Algonquian	GN	GNP							N	N	N			G			GNP	
Amharic		GNPD			GN	GN		GN	GN	GN	N						GNP	
Arabic	GN	GNP		GND				GN	GN	N	N		G					
Aztec	N	NP(SO)							N	N	N							
Bainuk	GN			GN			G	GN					GN					
Baki	N	NP(S)							N	N	N					NP(Pr.)		Adverb: T
Bamendjou																	N(Pd. Pr.) P(Pr.)	
Bangangte								G				G					G(Pd.) NP(Pd. Pr.)	
Bierian	N								N	N	N							Adverb: T
Cambodian	GN	$\overline{G}\overline{N}$P					$\overline{G}\overline{N}$				G	G			G			
Chinese	$\overline{G}\overline{N}$	$\overline{G}\overline{N}$P																
Chinook																	GN	
Chipewyan			NP (SO)		$\overline{G}\overline{N}$				N	N			G					
Chitimacha	N	NP(SO)		N(?)				N	N				G	G		NP		

Language \ Category	Noun	Verb	Pred. adj.	Attrib. adj.	Def. art.	Ind. art.	Card. no.	Demonstrative	3rd p. pron.	2nd p. pron.	1st p. pron.	Rel. pron.	Ques. pron.	Ind. pron.	Class	Possessive pronoun	Possessed	Other
Chiricahua		NP(SO)		$\overline{NG}$			G	$\overline{GN}$	N	N	N		G					
Coptic	GN	GNP	$\overline{GN}$	GN	GN	N	G	GN	GN	GN	N	D	G			GNP(Pr.) GN(Pd.)		
Dagbani					GN				GN									
Dakarkari				GN				GN										Possesser: GN(Pd.Pr.)
English	GN CaD	PN				N		N	GN Ca	N	N	G	G	N			GNCaD (Pd.)	Possesser: GNCaD (Pr.)
Eskimo	N	NP(SO)							N	N	N		GN				N(Pr.Pd.) P(Pr.)	
Eyak	G	G(SO)							G(?)								NP(Pr.) N(Pd)(?)	
Fijian	N	N(SO) D(O)		N					N	N	N	GN	GN			GN(Pd) NP(Pr.)		
Finnish		NP(S)	N	N					N	N	N	N						
French	GN	NP(S)	NG	NG	GN	GN	G	GN	NG	N	N	N	G			GN(Pd) P(Pr.)		
Fulani	G			G				G	G							G(Pd.)		
Futuna	NG	NP(S)														GN(Pd) NP(Pr.)		
German	GN CaD	PN		GN CaD	GN Ca	GN Ca	GCa	GNCa	GN Ca	NCa	NCa	GN Ca	GCa	Ca		GNCaD	GNCaD (Pd.)	Possessor: GNCaD (Pr.)
Gilyak		NP (SO)(?)							N	N	N						NP(Pr.)	

Language \ Category	Noun	Verb	Pred. adj.	Attrib adj.	Def. art.	Ind. art.	Card. no.	Demon-strative	3rd p. pron.	2nd p. pron.	1st p pron.	Rel. pron.	Ques pron.	Ind. pron.	Class.	Possessive pronoun	Possessed	Other
Grusi									G									
Hanunóo									N	N	N							
Hausa	GN	GN		GN				GN	G			GN	GN	GN		GN(Pr. Rl) P(Pr.)		
Hebrew		GN		GND					GN	GN	N						NP(Pr.)	
Hopi	NG												G	G				
Hungarian	NG D	NP; D(O)	N			N		NCa	NCa	NCa	NCa	NCa	NCa	NCa		NCa	NCa D(Pd.)	Possessor: NCa D(Pr.)
Ilocano									N	N	N							
Kebu	GN	NP	GN				G	$\bar{G}$	GN	N	N		G			NP(Pr.)		
Kiowa		NP(SO) (?)																
Kongo	GN								G									
Latin	GN	NP	NG	NG		NG	G	GN	GN	N	N	GN	G	G		GN(Rl.) NP(Pr.)		
Lingala		GN		$\bar{G}\bar{N}$		GN		GN	GN			G						
Luvale	GN	GN(SO)		GN			G											
Maasai	GN	NP(SO)		N			G	NG	N	N	N	GN	GN					Possessor: GN(Pr.) G(Pd.)
Malekula		NP							N	N	N							
Maloese									N	N	N					G(Pd.) NP(Pr.)		

Category / Language	Noun	Verb	Pred. adj.	Attrib. adj.	Def. art.	Ind. art.	Card. no.	Demon-strative	3rd p. pron.	2nd p. pron.	1st p. pron.	Rel. pron.	Ques. pron.	Ind. pron.	Class	Possessive pronoun	Possessed	Other
Mandjaku	GN	GN		GN			G	GN	GN			GN	GN					
Mbembe	GN	GN		GN			GN	GN	GN				GN			GN		Emph. part.: GN
Menomini																	GN	
Mo:re	GN			GN				$\overline{G}$	N$\overline{G}$									
Navaho		NP(SOD$_{ob}$)																
Ngwe	GN	NP					G	G	G			G		G				
Nzma	N	N		N														
Oriya		NP						N	N	N	N	N						
Potawatomi		P(SO)							N	N	N						NP(Pr.)	
Quechua	N	NP(SO)							N	N	N							
Spanish				GN	GN				GN	N	N							
Swahili		GN	G	GN				GN										
Up-country Swahili		GN		$\overline{G}\overline{N}$				GN										Poss particle: G(Pr.)
Tangoan		NP(S) (O?)															NP(Pr.)	
Taos	GN	NP(S) NG(O)					G	GN	N	N	N					GN(Rd.) NP(Pr.)		
Temne									G									

Category / Language	Noun	Verb	Pred. adj.	Attrib. adj.	Def. art.	Ind. art.	Card. no.	Demonstrative	3rd p. pron.	2rd p. pron.	1st p. pron.	Rel. pron.	Ques. pron.	Ind. pron.	Class.	Poss. pron.	Possessed	Other
Tewa	N	NP(SO)						N	N	N								
Thai									$G\bar{N}$	N	GN			G				
Togo-languages	G						G	G	G			G		G				
Tonkawa	GND	NP(SO)						N	N	N	N							
Turkish	N	NP(S) D(O)															NP(Pr.)	
Tzeltal		NP							N	N	N						NP(Pr.)	
Vietnamese	$\bar{N}$																	
Voltaic languages				GN					GN									
Yawelmani									N	N	N							
Yuma																		
Yurok		N(S) (O?) P(SO)		GN													$P\bar{N}$(Pr.)	
Zulu	Neg.																	

Some information presented in the chart lends itself to a discursive summary. Consider the following observations (which draw partly on the chart, partly on other data):

1. Every language has at least a ternary person, a binary number, and a binary definiteness distinction in the pronoun system. (Compare Greenberg 1963, Universal #42: "All languages have pronominal categories involving at least three persons and two numbers.")[2]

2. Obligatory distinctions for any grammatical class imply distinctions of the same kind for a personal, anaphoric, or deictic pronoun, not only for person, number, and definiteness (according to the above statement), but also for gender.[3] (Compare Greenberg 1963, Universal #43: "If a language has gender categories in the noun, it has gender categories in the pronoun.")

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[2]Since the absence of a symbol merely indicates lack of information, languages such as BAMENDJOU, KONGO, etc. are not considered counterexamples. ENGLISH you and GERMAN sie are only morphologically ambiguous; the same holds for some NA DENE languages which have no formal distinction between first and second person plural in dependent pronouns (Forchheimer 1951, 136). F. Householder called my attention to TASMANIAN which may be a counterexample by possibly lacking a second person.

[3]This is of course not true for the particular distinctions within these four main categories of agreement features. For example, SIERRA POPOLUCA has no exclusive-inclusive distinction in the first person independent pronoun, but has one for the verbal affix (Forchheimer 1951, 92-3). Also, the dual is a nominal but not a pronominal category in AKKADIAN, for instance. The obviative is a pronominal category in no language; it is always restricted to nouns. What is being claimed here is only that a certain type of distinction, such as person (of which the three universal persons and the inclusive plural first person are particular manifestations), number (under which singular, plural, dual, trial are subsumed), definiteness (of which the obviative is viewed as a particular manifestation), and gender is always represented in the pronoun if it is marked anywhere else. For instance, person as a whole is still a pronominal category in SIERRA POPOLUCA and number is a pronominal category in AKKADIAN despite the restrictions mentioned above. Real counterexamples may be MO:RE, for which Canu states (1967, 193) that no anaphoric or demonstrative pronoun varies with nominal gender, and AHLO, regarding which Westermann remarks: "Soweit sich aus meinem Material ergibt, verändern sich die Fürworte nicht entsprechend der Klasse des Hauptwortes, das sie vertraten oder auf das sie sich beziehen." For neither language, however, is there an explicit statement as to whether the relative pronoun distinguishes gender.

These observations now suggest a nonenumerative universal characterization of the set of agreement features. The following statement can be made: The set of agreement features in a particular language is always included in the set of pronominal features. This statement excludes from the class of possible natural languages one in which, for instance, the noun and the verb agree with respect to animacy but personal, anaphoric, and deictic pronouns show no animacy distinctions.

Consider now the range of phrases that participate in agreement. The following nonenumerative characterization on a universal level seems to be empirically adequate: The set of agreeing terms is included in the set of co-referential terms. This would rule out as a possible natural language one where terms which refer to different things or which cannot be shown to refer to anything, agree.

We will next explore the significance of these statements by trying to place them within some general linguistic theory.

3. A general account of agreement

3.1 Some rules. Our observations suggest that at least one possible theory which would yield a definition of the set of agreement features and agreeing terms would be one that provides for expressing co-referentiality and for representing the process of pronominalization. Although most linguistic descriptions talk informally about words that refer to the same thing and about pronouns, it is clear that no linguistic theory which does not assume as axiomatic at least some semantic properties and the discourse rather than the sentence as the domain for grammar, can account for pronominalization and other processes based on co-referentiality. Such a theory has recently been proposed by G. A. Sanders (1967, especially sections 3.31, 4.7, 4.10.). He posits the underlying structure of a discourse as a conjunction of finite unordered sets of semantic elements, including, among others, a referential otherness feature. Thus, for instance, the phonetic string A boy is walking. He is tall. is underlaid by the semantic element set ((young, male, by someone, pedal, slow, action), (someone, young, male, high, quality)). Each of these parenthesized coordinated sets, "holophrastic" sentences, in essence, is obligatorily iterated into pairs of identical sets, one to become the subject, the other the predicate. If the option of deleting one of two identical elements is not taken, one surface string to which the given semantic structure would be symbolically equivalent might be, "A boy — and that same boy is walking —is a boy — and that same boy is tall." The optional reduction rule provides for deleting

any feature in one set that has been duplicated in another. Thus we might get, for example, ((young, male, by someone, pedal, slow, action), (young, male, by someone, pedal, slow, action)) for the first sentence. A reduced set of this sort would be formally differentiated from the following: ((young, male, by someone, pedal, slow, action), (young, male, by someone, pedal, slow, action)), in that the first set does not fulfill the "generic includability condition", according to which the "generic features" of the subject must be included in the predicate, because "by someone", i.e. "animate subject" was deleted in the predicate and the second set satisfies this condition. Thus, while the first structure does not correspond to any surface structure, the second set corresponds to the sentence "A boy is (someone) walking", where the singular third-person form of the verb is the realization of "by someone" as included in the predicate. Now let us consider he in He is tall. It is a phonetic string replacing (someone, same, male) in the set ((someone, same, male, young, high, quality), (someone, same, male, young, high, quality)), where "same" is a feature provided by a redundancy rule (since the two boy-s were not marked as referentially different) and where "young" is deleted because of identity with the corresponding feature in the subject of the preceding sentence.

In other words, both the anaphoric pronoun and the predicate of the sentence are conceived as including the generic features of a noun; both the concord morphemes of the verb and of the pronoun result from the rule for deleting specific features of redundant -- i.e. repeated -- noun phrases, leaving the generic ones behind. Furthermore, since neither the subject part of the duplicated predicate set nor the subject set of the second sentence contains a referential otherness feature for boy, both generic sets -- concord and pronoun -- redundantly include the feature "same", thus making explicit the co-referentiality in pronominalization and predication.[4]

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[4]Some descriptions of ARABIC suggest independently that various facts about agreement are best accounted for by positing an anaphoric pronoun. See Cowell 1964, 401; Koutsoudas 1967, 48; Anshen and Schreiber 1968; also Hutchinson on TEMNE (1969, 15, 118, and passim).

The prediction one would make on the basis of this theory is that verbs and anaphoric pronouns have exactly the same set of agreement features. Provided that all other parts of the discourse, such as adjectives, demonstratives, etc. are derived from subjects and predicates, it also follows that all agreeing terms should agree in pronominal features--and only in those--and also that all agreeing terms are co-referential.

This theory thus appears useful for our purposes since it does characterize the set of agreeing terms as co-referential which, as we have seen, is empirically adequate. On the other hand, we have also seen that agreeing terms of a language do not all share all pronominal features. This question will be taken up in the following sections in the context of discussing individual types of agreement features.

3.2 Agreement features.

3.2.1 Gender. Gender agreement par excellence can be illustrated by sentences such as RUSSIAN Babuška čitala or LATIN Caesar magnus vicit, where verb and adjective, respectively, have particular inflections selected in accordance with the sex category marker of the noun.

Consideration of a wider range of linguistic objects, however, suggests the following:

a. An overt marker of gender in a noun is neither necessary nor sufficient to account for selecting one rather than another inflectional element in verbs, adjectives, and pronouns.

b. Those gender properties of nouns in terms of which inflectional selection in verbs and pronouns can be predicted, are necessary to account for the noninflectional ("lexical") selection of verbs and adjectives by the noun.

Let us now see some evidence for these two statements and then explore their implications.

That overt gender marking in the noun is not a necessary condition for agreement can be seen from the following. In some languages no noun ever takes an inflectional gender marking, but nominal gender is a relevant distinction in selecting proper pronominal forms. This is the case in ENGLISH; compare

The man The girl The table	is in the room.	He She It	is old.

In other languages, nouns may or may not have gender marking depending on various conditions, but their agreement requirements are unaffected by such conditions. In particular, gender distinctions are more often associated with definite than with indefinite noun phrases. In TUNICA č ɔ'ha means 'a chief', and ni'sara means 'a girl'. The respective definite forms are ta'č ɔhaku and ta'nisarahči, where the prefix is the definite article which obligatorily co-occurs with the suffixed gender marker (Haas 1946, 357). In AMHARIC 'the male student' is təmariw, 'the female student' is təmariwa and the form təmari means 'a (male or female) student', as in tiru təmari nəw 'He is a good student' ("good student is-he") and in tiru təmari nəc 'She is a good student' ("good student is-she") (Obolensky et al. 1964, 34, 171). In AMHARIC the definite or the (optional) indefinite article both mark gender (Obolensky, 172), and only noun phrases that contain neither are unmarked; in COPTIC the indefinite article has only one form for any gender, and thus only the definite article has gender marking. The opposite is the case in MODERN ARABIC and in SAMÑANI (Christensen 1915, 233), where the (optional) indefinite marker, but not the definite article, varies with gender.

In the overwhelming majority of languages, at least a few noun phrases may take one or another gender marker in verbs, adjectives, and pronouns, under the same conditions of word order and without themselves being inflectionally classifiable as belonging to one or the other gender, and with no other variation in their own form. Such is the case, for instance, with RUSSIAN personal pronouns:

ty čitala	'You (feminine) read.'
ty čital	'You (masculine) read.'

Or consider AMHARIC again, where bət nəw means 'It is a house' ("house is-he) and bət net means "It is a small house" ("house is-she"); kokəb wəTTac is 'The star appeared' ("star appeared-she") and tilliku kokəb wəTTa 'The big star appeared' ("big star appeared-he") (Obolensky et al. 1964, 170).

On the other hand, neither is overt gender marking on the noun a sufficient condition to account for all agreement properties of the noun; this is shown by the fact that in all inflecting languages some inflectional variations of verbs, adjectives, and pronouns are not directly derivable from overt gender markings of nouns. A case in point is gender agreement with conjoined noun phrases. In LATIN the predicate adjective shows the same gender as the subject nouns conjoined by et if they are alike in gender. It is also possible to conjoin nouns which differ with respect to masculinity-femininity-neuterness: if the conjoined nouns are all animate the predicate adjective is masculine; if all are inanimate, it is neuter. The adjective modifying the entire noun phrase (all those conjoined) agrees in gender with the nearest

noun. In TEMNE if inanimate nouns belonging to different gender classes are conjoined, the predicate shows the gender of the first conjoined noun. If the conjoined nouns in the set are all singular, but some are animate and others inanimate, the verb may show the animate gender (and plurality) or it may show the gender of the first conjoined noun (and singularity, in case it is inanimate). If the nouns are animate and inanimate and (some of them) are plural, the verb is in the plural animate gender or in the plural form of the gender of the first noun.[5]

Thus, in order to correctly predict gender agreement with conjoined noun phrases, we need to know properties of nouns not overtly marked. In particular, for both LATIN and TEMNE, we must know the animacy properties of those nouns; if they are all animate we need know no more about them for verb agreement. Furthermore, for adjective agreement in LATIN and for verb agreement in TEMNE (if not all nouns are animate), information about overtly marked gender of the conjoined nouns must be supplemented by information about how the nouns are ordered: serial order counts in TEMNE, proximity (to the adjective) in LATIN,[6] which further requires definition of the neutral or unmarked gender.[7] Finally, rules are different depending on the part of the sentence for which agreement is to be accounted for.

The significance of specifying ordering and other syntactic or binding relations between agreeing terms and nouns, and also of animacy distinctions and markedness hierarchies, can be documented outside the realm of (surface) coordination as well.

3.2.1.1 As for binding, it is well known that terms in a particular language which are co-referential with the noun phrase and which might, in other languages, agree with the noun in gender, do not in fact always agree. For instance, as Greenberg observed (1963, Universal #31), gender marking in the verb implies gender marking in the attributive adjective but not vice versa.

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[5]This information about TEMNE is taken from data that formed part of the M.A. examination problems at Indiana University in May 1968.

[6]Proximity is also a factor determining some of agreement in FRENCH. Compare Le calme (masc.) et la fraîcheur (fem.) du vieux couvent sont si exquises (fem.) (Blinkenberg 1950, 101).

[7]Masculine turns out to be the unmarked animate gender also in HEBREW (Harris 1948, 89) and in SPANISH. For examples in SPANISH and for a general discussion of markedness in gender, see Greenberg 1966, 75 and 92.

Furthermore, even if both of two possible candidates for agreement do in fact agree in gender with the noun, they may not show agreement in the same value of the gender feature. Notice, for instance, the following GERMAN discourse: "Das schöne Mädchen, das/die du gestern sahest, ist krank. Es/Sie ist im Krankenhaus." Here the definite article and the adjective, as well as the noun suffix, are neuter; but the relative and anaphoric pronoun may be neuter or feminine.

It is interesting to compare these data with some from various African "class languages". In Swahili (Lyons 1968, 284-6), for instance, nouns belong to various classes, depending on their prefixes and agreement requirements; but, as Lyons points out, agreement properties of nouns which refer to human beings and to animals cannot be fully accounted for in terms of their class membership. Whereas such nouns are regular with respect to adjective agreement, human and most animal nouns require Class I agreement in the verb, regardless of which class they belong to. As it turns out, Class I includes most human nouns.

LINGALA (Alexandre 1967) is a parallel case. Most nouns belong to prefix-and-concord (with respect to the relative pronoun) classes; but anaphoric pronouns, demonstrative pronouns, the word "other", as well as the verb, show agreement depending on the animacy feature of the subject noun only.

MANDJAKU (Doneux 1967) has a large number of concord prefixes for adjectives, numerals, "other", and for various pronouns, but the indicative of the verb shows only a two-way distinction, depending on whether the subject noun is plural human or not.

In MBEMBE nouns belong to eleven classes according to their prefixes and agreement requirements. Each class governs three sets of concord prefixes, depending on the particular part of the sentence or discourse. Examination of these concord markers shows four different noun classes which differ with respect only to their prefixes, not to the concord morphemes they govern; the set of these four classes exhausts those which contain nouns referring to human beings (Barnwell 1969).[8] It is also interesting that personified animals take Class I agreement despite their formal membership in Class III.

In LUVALE pronouns, adjectives, possessives, and numerals agree with the noun. Nouns, according to their prefixes, belong to 14 classes, nine of which refer to animate beings. All such animate nouns are exceptional in their agreement requirements because they take Class I agreement for all agreeing terms (except in a genitive construction) (Horton 1949, 24ff.).[9]

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[8]Two other pairs of classes also have identical concord morphemes and differ only in their prefixes; no explanation has been found, given Barnwell's data, for this.

[9]Professor Greenberg called my attention to these data.

In TEMNE if the noun is animate both verbs and attributive adjectives disregard noun class membership and agree as if the noun were of Class I (Hutchinson 1969, 9-10, 103-4).

In AKKADIAN some nouns are, by form, feminine, although they refer to male beings, such as 'chief'. Such nouns may take either female or male pronominal reference in the verb; although data are sparse, there is some evidence that this may apply also to attributive adjectives (von Soden 1952, 186-7).

These data show the following: some nouns require a double marking for gender. Whenever this is the case, one marking is needed to account for inflectional properties of the noun itself (and, possibly, for noun-phrase-internal agreement); the other marking is needed to account for verbal and pronominal, i.e. noun-phrase-external (and, possibly, internal) agreement. If agreement "makes sense" for any agreeing term, i.e. if it is in accordance with some category that is clearly part of the meaning, it is by all means verb-and-pronominal agreement; "semantic" or "natural" agreement within the noun phrase implies such agreement outside it. In other words, there is probably no human language where, for instance, a noun agrees with the adjective in sex gender while agreeing with the pronoun in some grammatical gender feature. Various aspects of this generality are discussed and then summarized by Lyons: "The grammatical cohesion is stronger in the noun phrase than it is between the subject and the predicate" (1968, 287; see also McCawley 1968, 142).

3.2.1.2 We thus see that different parts of the discourse may agree differently with the noun in gender. The following ARABIC sentences show that even the same part of the sentence may agree differently with the noun, if order conditions are changed (Ferguson and Rice 1951).

wálad ʔəžáani	'A boy came to me.' ("boy came-he-to-me")
ʔəžáani wálad	'A boy came to me.' ("came-he-to-me boy")
bánt ʔəžátni	'A girl came to me.' ("girl came-she-to-me")
ʔəžátni bánt	'A girl came to me.' ("came-she-to-me girl")

These sentences show gender agreement between subject nouns and predicate regardless of ordering. Consider now the following:

*ʔəžátni wálad
*wálad ʔəžátni
*bánt ʔəžáani
ʔəžáani bánt

This shows that whereas masculine nouns must always take masculine agreement, feminine nouns may take masculine or feminine agreement depending on word order. Compare this with similar cases in FRENCH:

Ils (masculine) sont fraîches (feminine), ces noix (feminine).
Ces noix (feminine) sont fraîches (feminine).
J'ai écrit (masculine) cette lettre (feminine).
Cette lettre (feminine), je l'ai écrite (feminine).

(Blinkenberg 1950, 105, 117.)

To account for this we might again contend that certain nouns must have double gender marking and that one or the other is considered under different conditions of ordering. But this would obscure the fact that one of the two values is the same for all nouns, i.e. in some cases when the agreeing term precedes rather than follows the noun phrase, all nouns require the same agreement. Thus a general statement according to which agreement tends to be progressive rather than anticipatory (i.e. backward agreement between two terms implies forward agreement for the same terms) and which draws upon the notion of "unmarked feature value" which takes over when there is no agreement, seems preferable (for some pertinent observations, see Greenberg 1963, Universals #33 and #40).

In sum, it seems that in the context of a universal grammar, at least two kinds of gender agreement will have to be specified, and both sets of rules will have to be restricted with respect to scope and optionality in terms of languages or language classes. One type of agreement is to take care of noun phrase external, i.e. verb and anaphoric pronoun agreement along the lines described in the preceding section; the other seems to be subsequent to lexicalization and is to explain noun phrase internal inflection (i.e. inflection of nouns, relative pronouns, adjectives, demonstrative pronouns, possessives, articles, and numerals) in terms of lexical gender features. It should be noted that certain agreements can be specified only subsequent to some ordering rules, and markedness hierarchies with respect to gender features will have to be provided.

If it is true in languages with the corresponding inflectional categories that animacy and natural sex gender determine agreement, at least optionally and at least for the verb and the anaphoric pronoun, this reveals an interesting relation between agreement and another part of grammar. Animacy and sex are the sole gender features relevant for specifying proper lexical selection restrictions for nouns and verbs, adjectives, adverbs, and the like; grammatical gender features never have a role here. For example, the set of predicates which may co-occur with das Mädchen in GERMAN will intersect those which may co-occur with animate female subjects; neuterity will be irrelevant in specifying this set. Thus it seems that the necessary conditions for proper word selection with respect to gender are the same ones which are necessary for properly specifying all options of inflection and selection in verbs and pronouns.

3.2.2. Number What is generally meant by number agreement is the following: noun phrases in the singular take singular verbs, adjectives, and pronouns; noun phrases in the plural take the plural forms of these phrases.

Consideration of sentences such as

> The police are coming.
> An Englishman never does that; he/they has/have different habits.
> The boy and the girl are reading.

shows that, unless we are willing to supplement the above statement with various unrelated appendices about collectives, generics, conjoined nouns, and the like, or to give it up altogether, the central problem of number agreement is to establish the "right kind" of number representation of noun phrases, i.e. to find a level on which all noun phrases which take singular agreement are represented as "one"; all others, in some sense, more than one. In addition, note that the number property of a noun phrase is apparently not an either-or proposition: various terms may agree with respect to different values of the noun's number property. That is to say, more than one number representation is required for the same noun phrase in order to account for the inflections of various terms and of the noun itself.

In trying to determine these different number representations we will first consider three constructions, all of which are, presumably, universally observable and all of which are in semantic number contrast with the meaning of singular phrases such as one man. The three constructions are pluralized noun phrases such as men (that include pronouns which, in some languages, are the only overtly pluralized noun phrases), numerated noun phrases such as two men, and conjoined noun phrases such as one man and another man. It has been observed in a limited sample of languages and is now hypothesized as universally valid that the anaphoric pronominal reference to such phrases is always plural. As for verb agreement, the picture is somewhat more ambiguous. After conjoined singular nouns, there are examples of both singular and plural verbs in COPTIC (Till 1961, 199) and in HUNGARIAN. After numerated nouns, either singular or plural verb forms may be used in AMHARIC (Obolensky et al. 1964, 311) and in OLD ASSYRIAN (von Soden 1952, 186), and only singular verb forms in (present-day) HUNGARIAN. Apart from these instances, however, verb agreement, too, is observably plural with these types of noun phrases. Therefore, although such noun phrases must be considered plural, conjoined singular nouns are never inflectionally marked as such and numerated noun phrases are not universally inflected as such. BAKI (Fraser 1891, 76) and FIJIAN (Churchward 1941, 14-5) have an optional nominal plural marker which is in complementary distribution with numerals. In AMHARIC (Obolensky et al. 1964, 31), ASSYRIAN (Von Soden 1952, 194), and HAUSA (Robinson 1930, 60), the singular or the plural noun form (and presumably also the adjective and the demonstrative and possessive pronouns) may each co-occur with a numeral. In RUSSIAN and in ARABIC (Cowell 1964, 367) some numerals co-occur with singular, others with plural nouns.

In COPTIC (Mallon 1956, 76ff.), in TURKISH, in (present-day) HUNGARIAN, and in BALTI (Forchheimer 1951, 114), (as in BAKI and FIJIAN mentioned above), the plural noun form must not co-occur with numerals. In FINNISH, however, it is apparently possible for the demonstrative pronoun and the adjective to show plurality if they co-occur with a numerated (singular) noun, e.g. in nuo hauskat kymmenen minuttia ("these beautiful-plural ten minute") (Mey 1960, 107). All this shows that, while it is not easy to generalize about plurality as represented within a noun phrase, the agreement properties of conjoined, numerated, and (superficially) pluralized noun phrases tend to be the same with respect to noun phrase external terms such as anaphoric pronouns and verbs. But this suggests there must be a certain level where, regardless of superficial noun phrase internal differences in marking, conjoined, numerated, and pluralized noun phrases should all be represented as the same plural noun phrase.

Arguing from the standpoint of minimalizing the set of linguistic axioms, of synonymy relations, and of various manifestations of their common syntactic behavior, Sanders (1967) shows that terms like singular and plural are not linguistic primitives; that numerated noun phrases are derivable from conjoined noun phrases (which are given by the assumed underlying discourse) by lexicalization--that is, one and two men and three men are both derived from 'one man and another man and another other man'; and that pluralized noun phrases are also derivable from conjoined noun phrases by deleting the unitization element. (See especially Sanders 1967, sec. 4.5, 4.8, and 4.10. For insight into common properties of conjoined and numerated noun phrases see also McCawley 1968, 146ff.) This suggestion thus provides a motivated way of accounting for the common agreement behavior of these three kinds of noun phrases and it is, therefore, tentatively accepted here.

The following maximal generalization may now be made: all noun phrases whose underlying structure includes at least one conjoining--and only these--take plural agreement in the anaphoric pronoun and in the verb. For this to be true it must be shown that all noun phrases which take plural agreement, other than those considered thus far, must also be represented as underlaid by conjoining, even for reasons independent of agreement, and all noun phrases which do not take plural agreement as not derived from conjoining. If this cannot be shown, the generalization is invalid. Therefore, we will now consider possible derivations of some (superficially) conjoined, (superficially) pluralized, and (superficially) singular noun phrases whose agreement properties deviate from what one would expect on the basis of their surface structure.

Blinkenberg (1950, 29) points out that the conjoined FRENCH noun phrase mon ami et collègue takes singular verb agreement. Examples of this sort can easily be found in other languages (for FINNISH see Mey 1960, 104).

Blinkenberg also points out that a sentence which starts with Ma famille et la tienne . . . can be continued as . . . est très connue dans la région or as . . . sont très connues dans la région, with corresponding difference in meaning. However, it is clear that mon ami et collègue and ma famille et la tienne in the first version cannot be derived from underlying conjoined noun phrases despite their surface structure, given the well-motivated condition that only referentially nonidentical noun phrases can be members of underlying coordinations.[10] That the two superficially conjoined phrases here are not referentially nonidentical is evidenced by the way they are understood, and also by the fact that they would not undergo numeration (i.e. they would not take deux hommes and deux familles as appositions). In other words, given this condition on underlying coordinations, what is really claimed about number agreement with respect to verbs and anaphoric pronouns is that it is an agreement with the plurality of the noun-phrase referents. Since the above-mentioned pairs of phrases can be shown to have only one referent each, the fact that they take singular verb and pronoun agreement is explained, and the superficial conjoining here involved is regarded as one of attributes rather than of substantives.

If, for plural agreement, underlying referential nonidentity within the noun phrase is required, then it follows that not only will noun phrases with underlying referential identity not show plural agreement, but neither will noun phrases which lack referential marking entirely. With this in mind, let us consider some facts of SYRIAN ARABIC (Cowell 1964, 424):[11]

l-kət^{ə} b mā bihəmmū	'The books don't interest him.'
l-kət^{ə} b mā b^{ə} thəmmo	'Books don't interest him.'

The subject noun phrase, in both cases, has the definite article and is plural. The difference is that the predicate of the first sentence is plural, i.e. it agrees, while in the second it is (feminine) singular. The first sentence refers to specific and identified books, the second to books in general.

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[10]Sanders 1967, sec. 4.1: "Only sets which are of identical genus and non-identical species can apparently participate as members of a grammatical coordination." Throughout the whole dissertation, however, the scope of the notion "genus" or "generic feature set" remains unclear to me. Here, for instance, genus must not include features of sex gender since noun phrases that differ in this respect can be coordinated, but animacy-gender probably needs to be part of it.

[11]A similar contrast which, however, might hinge on an indefinite-definite rather than generic-definite contrast is illustrated in Hetzron 1967, 173:

šúɣa nə́n əttuɣà	'Three houses (singular) fell (singular).'
šúɣa nə́nkə́ əttunà	'The three houses (plural) fell (plural).'

Compare this with the ENGLISH sentence mentioned above: An Englishman never does that; he/they has/have different habits which is synonymous with Englishmen never do that; they have different habits. This shows that noun phrases which refer to kinds of things rather than to specific objects are deviant or unstable in their number and in their number agreement requirements. Since, apparently, these constitute the only kind of noun phrase for which superficial number distinction (compare an Englishman with Englishmen above) and superficial definiteness distinction (e.g. The lion is a fierce animal and Lions are fierce animals) do not imply the corresponding semantic distinctions, we must conclude that number (and definiteness) markings of such nouns are not explicable in terms of the general definitization and pluralization rules. Since, however, all noun phrases which have the proper identity or nonidentity specifications on their underlying referential markings must undergo definitization and numeration, and it seems that such generic noun phrases have not undergone such rules, we conclude that they have no referential markings. If this is true, it explains their deviance with respect to (definiteness and) number inflection and agreement. Of course, the fact that such phrases do acquire definiteness and numerational markings at all still calls for an explanation, which will not, however, be attempted here. (For generic noun phrases having deleted referential markings, see Baker 1966, especially 21.)

Certain noun phrases, however, cannot be said to be devoid of reference and in fact appear to refer to more than one object; and they may still take singular verbs and pronouns. Such phrases are: titles of books--Les Illusions Perdues a été publié or ont été publiées en 1835 et 1843; names of places--Les Cabannes est or sont un village placé le long de la route; references to words--'les os' ne se prononce pas comme cela; and references to quantities--Mille francs est une grosse somme, Deux livres lui suffira (Blinkenberg 1950, 37, 74, 52, 69); or ENGLISH Ten thousand dollars isn't much. Here is ten and ten more. Where is your two bushels? This is only five apples. Five more two cents's and I'll have enough. (F. W. Householder's examples). Although it is not clear how to account for the optionality of these nouns, the problem and the underlying process seem to be very general and provide at least an intuitive explanation for singular agreement in such sentences.

Thus far we have considered phrases whose surface structure would have predicted plural agreement but which, in effect, allowed singular agreement or a more or less free variation of singular and plural forms of verbs and pronouns. Next let us consider superficially singular phrases which may take plural verbs and pronouns. Such are, for instance, certain comitative constructions such as Le pape avec le cardinal sont retournés (Blinkenberg 1950, 86). Since such sentences are synonymous, at least with respect to one of their meanings, with certain coordinations (Le pape et le cardinal . . .) we posit a relation of common logical origin for such

pairs of phrases, with the underlying coordinated structure accounting for the plural agreement. As another example, consider collectives. Words such as LATIN populus, ENGLISH crowd or police, FRENCH la plupart, la reste are inflectionally singular and may take singular or plural agreement in the verb and in the anaphoric pronoun (but usually singular in the adjective and in other noun phrase internal terms). This is true for FINNISH, for ARABIC (Cowell 1964, 426) and also for AKKADIAN, except that there the singular-plural option is available for the attributive adjective as well (von Soden 1952, 186). In COPTIC, given a sentence where various orders of a subject noun, modifying adjective, and one or more verbs are possible, the following rule appears to operate: whatever comes before the collective--i.e. all or one of the verbs or the adjective--is singular; of those following the collective subject, the verb(s) must--and the adjective may--be plural (compare Mallon 1956, 179).

One possible mechanism accounting for the fact that collectives take plural agreement would provide for optional inclusion of either the element 'plural' or 'collective' into a set of conjoined noun phrases prior to lexicalization. Thus the set (Human), (Human, Other), (X), Plural would be lexicalized as people whereas the set (Human), (Human, Other), (X), Collective would be lexicalized as crowd. This does not, of course, explain that collectives may also take singular predicate and pronoun agreement, i.e. the fact that a multitude of things referred to can under certain circumstances be thought of as a simple unit as well. While no solution is offered here, it should be pointed out that a mechanism which allows for such a double view of sets of conjoined objects is probably the same one that accounts for the fact that singular agreement can be used after conjoined noun phrases in certain languages if they are felt to constitute a unit. Thus, FINNISH isä ja äiti on kylässä "father and mother is village-in" 'The father and mother are in the village' (Mey 1960, 104); see also OLD BABYLONIAN (von Soden 1952, 186). This mechanism is also needed for a proper interpretation of plural reflexive pronouns (compare the ambiguity in terms of each member or the whole group acting in They take care of themselves).

There is another problem, however, about this proposal. It is clear that whereas it is semantically acceptable for the underlying structure 'man and another man' to receive men as one of its surface realizations, it should not be lexicalized as crowd, which implies a group of more than two people. This suggests that probably all languages need some elements prior to lexicalizing conjoined noun phrases which would mark (non-numerative) distinctions within the general category of plurality (on intermediate elements in general, see Sanders 1967, sec. 1.10). In ENGLISH, for instance, the element "dual" would be needed in order to account for a pair of . . . and a couple of . . . ; both . . ., either of them (2) versus any of them; each of them (2 or more) versus every one of them (3 or more). The element "more than two" would be needed to account for crowd, group, etc.

Next, we will consider some plurality elements that grammars of other languages seem to include. Various descriptions of languages which have been studied for the purposes of this paper incorporate the following terms: dual, trial, plural of paucity and plural of abundance. First, to say that all these are distinctions within the general notion 'plural', rather than alternatives to it, needs justification. One argument in favor is provided by the fact that thus we can maintain a universal concept of what plurality means; if we chose some other alternative, plurality would have to be defined as "more than one" or "more than two", depending on the alternative categories of a particular language. That the dual, for instance, is semantically part of the plural system can be shown in several other ways. Cross-linguistically, synonymy exists between dual and plural (but not between dual and singular) forms. Also, given a language with a dual marker in the noun, a plural but not a singular noun phrase may be used to replace it. If a particular agreeing term lacks the category of dual, it will be plural with respect to the verb, as in ANCIENT GREEK or MODERN ARABIC (Cowell 1964, 420) and in AKKADIAN, where the category of dual was abandoned in the adjective earlier than in the noun and thus plural adjectives co-occur with dual nouns (von Soden 1952, 187). HOPI is an exception where the dual nominal subject takes singular, not plural, agreement in the predicate; for pronouns, which have no overt dual marker, duality is expressed by a plural pronoun plus singular predicate, and plurality requires plural pronoun plus plural predicate (Whorf 1946, 175). Moreover, if the meaning of the dual is extended in any direction it is toward "more than two" rather than "one". For instance, dual nominal forms are used in AKKADIAN not only for paired parts of the body but also for other parts, such as "teeth" or "fingers". That the dual in AKKADIAN may mean "more than two" is also shown by the numerals for 20, 30, 40, 50, etc. which are dual forms of 10, 3, 4, 5, etc., respectively (von Soden 1952, 74ff., 91). In OLD ASSYRIAN the dual verb form may be used after two or more conjoined subjects (von Soden 1952, 186). The same extended meaning of the dual is evidenced in GERMAN and in HUNGARIAN where equivalents of "a pair" usually refer to two or more than two objects. Another argument for the dual as part of plural comes from the morphological structure of dual forms: they often consist of the plural marker plus something else, e.g. in OLD ENGLISH (for more evidence and discussion of markedness distinctions in number, see Greenberg 1963, Universals #34 and #35; 1966; also the lectures delivered in his courses on language universals).

A third argument for the dual and trial as subcategories rather than alternatives to the plural is provided by a distributional fact: whereas plural is a generic distinction, i.e. its presence in the nouns of a particular language always implies its presence in some pronoun, this implication does not apply to the dual and the trial. As mentioned above, dual is a nominal but not a pronominal category in HOPI and in spoken ARABIC; it is a category of the verb but not of the pronoun in YUROK.

The potential extension of the meaning of the dual into "more than two" can be generalized as extending the meaning of the highest unit class in a particular language into "a few". For instance, in FIJIAN it is the trial that is reported to stand for three or more (Churchward 1941, 25ff.; Professor Greenberg called this fact to my attention). While for FIJIAN there is still some justification for calling this form a trial, because of its morphological structure, some languages have a category of "few" and one of "many", both formally unrelated to any unit category. Two such non-unit plurals which are morphologically and semantically distinct are reported for AKKADIAN, ARABIC, BAINUK, and SENUFO. In AKKADIAN (von Soden 1952, 76-7) šarrānu is glossed as '(eine Anzahl einzelner) Könige' and šarru is 'die Könige (schlechthin)', ilanu is 'die (persönlichen grossen) Götter' and ilū is 'Götter = Pantheon'. The meaning of the "paucal" plural ending -ānu is explained as follows: "es bezeichnet eine Mehrheit, die sich aus einer zählbaren Anzahl in sich selbständiger Einzelteile zusammengesetzt." In ARABIC (Cowell 1964, 369) the paucal is said to imply paucity and individuality of objects referred to; it may or may not be used with numerals. (When a plural of paucity is used without a numeral between 2 and 10, it usually implies that the things referred to are few in number and individually discriminated.) This plural is formed from the unit singular form of nouns, e.g. samake 'a fish' forms samakat 'fish (plural)'. The other plural implies abundance, must not be used with numerals, and is formed from the collective singular form of the noun, e.g. samak 'fish (collective)' forms ʔasmak '(many or various) fish'. In BAINUK (Sauvageot 1967, 225ff.) bu-sumɔl means 'a snake', i-sumɔl means 'snakes (a counted quantity)', and ba-sumɔl means 'snakes (not counted because counting is impossible or considered superfluous)'. If the noun phrase contains a numeral, the "counted" plural must be used. In SENUFO (Sauvageot 1967, 236), siɣ means 'tree', siɣe means 'trees (countable)', and sir means 'trees (uncountable)'. Whorf (1946, 170) reports that HOPI nouns also have two plurals, a paucal and a multiple, but from his data I am unable to see what is involved there.

Let us now decide how to account for the facts that have prompted grammarians to set up these two plural categories for the languages mentioned. First of all, which is the "real" plural? Plurals (and, normally, duals and trials) in various languages may occur with or without numerals. This suggests that the plural without, rather than with, a numeral should be considered peculiar to AKKADIAN, ARABIC, BAINUK, and SENUFO. The non-numeratable plural in all these languages shows, in contrast with the other plural, additional common characteristics. First, its meaning is said to imply a large number of objects. Second, it implies that this number is unspecified or unspecifiable and that the group is undiscriminated. But these are the two semantic properties which distinguish collectives from regular plurals, as pointed out above for ENGLISH. Considering also that

both "plural of abundance" and collective forms (may) take "ordinary" plural agreement in pronouns and verbs, the only distinction left between these two categories is that the forms for "plural of abundance" are always, but for collective are not necessarily, derivable by productive inflection from singular nouns. Leaving open the question about the significance of this difference, we tentatively conclude here that in a grammar it is redundant to adopt the two categories as separate ones and that their derivation should be the same for collective and for "plural of abundance" forms. Thus it now seems that all number distinctions come down to distinctions between numerated and non-numerated plurals, duals, trials, and collectives -- all opposed to singular; that all these except collectives can be accounted for by assuming underlying coordination, inclusion of intermediate elements, and alternative lexicalization; and that the basic difference between plurals and collectives can be accounted for by some assignment of a unit index to the underlying conjoined noun phrases.[12]

Having explored various aspects of gender and number specification with respect to various part of the discourse, a crucial question to ask is this: are there two (sets of) rules, one accounting for number agreement, the other for gender agreement, or is there one mechanism explaining agreement with respect to both these properties? In other words, we are now concerned with similarities in how agreement works for gender and for number.

As for the nature of these features, it was noted that some aspects of gender -- notably animacy and sex -- are both selection and agreement features. A similar observation can be made about number: certain verbs require plural noun phrases. This is true for verbs and adjectives such as "meet", "separate", "similar" in ENGLISH or in any other language where the corresponding semantic features are lexicalized in this combination. Also, it is reported that CHIPEWYAN (L: 1946, 404 ff.) has distinct verb stems differing (nonphonologically) only in that some require singular, others plural, subjects or objects. In CHITIMACHA (Swadesh 1946, 325), number of subject and object is marked in the verb, but in addition some pairs or triplets of verbs differ in terms of a marker indicating singularity, duality, or plurality of occurrence of the event the verb refers to: intransitive verbs with nonsingular occurrence number tend to take plural subjects, while such transitive verbs tend to take plural objects. Second, relevance of the distinction between noun phrase external and noun phrase internal agreement seems to be crucial for both gender and number.

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[12] It is not claimed, however, that this account takes care of the collective in ARABIC, which looks very complicated and for which I have insufficient information at this point.

In particular, we have found that noun phrase external agreement can nearly always be predicted in terms of "semantic gender" and "referential number", whereas agreement with respect to various modifier-type elements shows the same markers as the noun inflection itself, which may, but need not, reflect underlying meaning elements. Third, some evidence indicates that at least some ordering rules in certain languages must precede some of the rules accounting for agreement with respect to both gender and number; under certain ordering conditions the "unmarked" gender or number feature value appears. On the other hand, applicability of markedness hierarchies is certainly not coextensive for gender and number. In the case of conjoined noun phrases of different sex gender, the unmarked gender would be specified for the verb, but it is not true in any language inspected for this purpose that conjoined noun phrases which differ in their number properties take a singular verb--which, in other contexts, would be the unmarked value of the number feature. Fourth, a general process of reification (for some examples and discussion of this notion see McCawley 1968, 131-2) appears a reasonable way to account for certain cases of "suspension of agreement" in both gender and number. The apparent non-agreement with book titles, place names, and the like was pointed out in the section on number, but it also holds for gender (for an example in FRENCH see p. A20). What it boils down to is that any noun phrase can be thought of as a name for an object, such as "book", or for "(a) thing, in general"; then gender and number agreement may take place with that more general name of the object or with the semantic properties of "(a) thing". Thus, suspension of gender agreement in the ANCIENT GREEK sentence Hōs charien est anthrōpos hotan anthrōpos ē (Menander) 'What a nice thing is Man when he is indeed a Man.' ("How nice (neuter) is man (masculine) when man (masculine) he-is.") and suspension of number agreement in the ENGLISH sentence, Distinctive features is a good thing is simply explained by the fact that all noun phrases are "singular" and "neuter" in the sense that they refer to things taken together as a unit; this property can be predicated, made into an apposition, or simply "assumed", thus making it relevant for agreement.

Besides "common behavior", gender and number features also seem to cluster together. First, as has already been pointed out, both are necessary categories of the (anaphoric-deictic) pronouns whenever they are marked in the noun.

Second, overt markings of gender and number tend to "cluster" even within the noun phrase, often along with some other generic feature such as case. Such clusters of generic and referential features are articles and classifiers. Both these elements are viewed as "pronominal" in that they represent generic and referential features only, although they co-occur with, rather than substitute for, noun phrases. That they represent the referentiality of the noun phrase is shown not only by the fact that the number

feature--which is derived from nonidentical referential marking--is marked by these elements, but also that definiteness, which is derived from identical reference marking, tends to cluster with these features, too. Furthermore, we have seen that noun phrases which lack reference, such as generic nouns, tend to have less clearly marked number and definiteness distinctions (although no evidence has been presented with respect to blurred gender distinctions). This probably accounts for the fact that nouns which are parts of compounds tend to lose both their referential properties--such as definiteness, number, and their ability to be pronominalized--and also their gender and case properties (compare GERMAN Rotkäpfchen 'Little Red Ridinghood' with rotes Käpchen, ENGLISH five-dollar bill with five dollars, or GERMAN Haustor with das Tor des Hauses, etc.).[13]

3.2.3 Definiteness. The meaning of such GREEK and LATIN one-word sentences as lyei or solvit is 'he solves (something)' but not 'someone solves (something)' or 'someone solves it'. This observation can be generalized as follows: pronouns inflectionally represented in (i.e. agreeing with) predicates are always understood as definite. Consider now HUNGARIAN. There are sentences such as megold 'he/she/it solves (something)' and megoldja 'he/she/it solves it'. This shows that, for HUNGARIAN, a stronger statement holds: not only is it true that the inflectional representation of a pronoun is interpreted as definite, but also that definite pronouns, whether subject or direct object, are incorporated in the verb. Consider now obligatoriness and optionality with respect to the entire paradigm with third person singular subjects and objects in a language such as LATIN or GREEK, which have subject verb inflection, and in a language such as HUNGARIAN, which has subject and object inflection in the verb. Word order in the chart is verb - subject - object.

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[13] Or see MO:RE (Canu 1967, 178-9) where the first term of a compound loses its number marking; or MAASAI where parts of compounds lose their gender prefix (Tucker and Tompo 1955, 46-7). F. Householder pointed out to me that while AMERICAN ENGLISH holds to the rule that plurals must drop the suffix before entering a compound as first member e.g. brain trust, billiard table (but dry-goods store), in BRITISH ENGLISH there is a recent development such that the plural suffix is retained, e.g. brains trust, darts match.

Object / Subject	DEFINITE	INDEFINITE
DEFINITE	LATIN : solvit (ille) illud HUNGARIAN: megoldja (ϕϕ) (ezt) GLOSS : 'He solves it'	solvid (ille) (aliquid) megold (ϕϕ) (vɔlɔmit) 'He solves something'
INDEFINITE	LATIN : solvid aliquis illud[14] HUNGARIAN: megoldja vɔlɔki (ezt) GLOSS : 'Somebody solves this'	solvit aliquis (aliquid) megold vɔlɔki (vɔlɔmit) 'Somebody solves something'

These data may be summarized as follows:

1. Definite subject or object pronouns are always nonobligatory if there is subject or object agreement, respectively, in the verb, unless constrastive.[15]

2. Indefinite subject pronouns are mostly obligatory if there is subject inflection in the verb.

3. Indefinite object pronouns are nonobligatory if the verb lacks object inflection; if the verb has object inflection, indefinite object pronouns must not co-occur with it.[16]

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[14]Certain passive forms such as venitur 'someone comes' and necatur 'someone kills him/her', however, seem by themselves to imply indefinite subject (F. Householder's observation). Also, in RUSSIAN and ARABIC a plural third-person verb form by itself implies indefinite subject (C.A. Ferguson's observation).

[15]In some languages, however, that have subject inflection in the verb, such as ENGLISH, FRENCH, or RUSSIAN, independent pronouns are obligatory along with verbal subject inflection.

[16]To complete the picture, we would have to consider languages which have neither subject nor object inflection, and languages which have object inflection without subject inflection in the verb. However, sufficient data have not yet been collected for the first type (e.g. CHINESE) and no language of the second type was encountered in my sample.

When either the independent pronoun or the inflection is optional in a language, its presence implies emphasis. Use of the independent pronoun in addition to inflection is emphatic in HUNGARIAN, in AKKADIAN (von Soden 1952, 40), in BAKI (Fraser 1891, 78), and in MAASAI (Tucker and Tompo 1950, 53). Use of object inflection in addition to the independent definite object pronoun implies emphasis in AMHARIC (Obolensky et al. 1914, 51).

In languages where the pronoun possessor is marked inflectionally and its independent pronominal form is optional, such as HUNGARIAN or COPTIC (Mallon 1956, 33), the same observations apply: inflection by itself implies a definite possessor and addition of the independent pronoun implies emphasis.

Object incorporation is not restricted to the direct object. In AMHARIC the verb may refer inflectionally to either the direct or the indirect object. In AKKADIAN (Von Soden 1952, 109), a direct and an indirect object, and also a subject, may be referred to within the same verb phrase. It seems there is no language where indirect but not direct objects can be incorporated, just as no language has been encountered where the object but not the subject is incorporated.

All in all, two general observations can be made. One is that incorporated or inflectionally represented pronouns -- optionally co-occurring with their independent counterparts -- are almost always definite. In other words, it is claimed that no indefinite pronoun can be both inflectionally and independently represented in a construction with one of the two representations optional. But this seems to be a necessary condition, given Sanders' substantive extraposition rule and the concept that whatever is the same as something else is definite. That is to say, since verb inflection is derived from one of two identical noun phrases, it turns out to be a "second mentioning" and thus definite.[17]

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[17] In some languages, indefinite subject or object pronouns are "inside the verb" just like a definite pronoun. This is true, for instance, in CHIPEWYAN:

nát'sɛde	'people are staying'
nádɛ	'they are staying'
sɛɵdel *t's(ɛ)hɵddel	'people have started'
hɛhéɵddel	'they have started'

where glosses involving 'people' are to be interpreted as 'one' or 'somebody' (Li 1946, 416). But since I do not know whether optional independent pronouns are used with both types of verb form, these facts fall short of constituting a counterexample. Whorf says that in AZTEC either a definite or an indefinite

The other general observation is this: agreement relations between the subject and the predicate, on the one hand, and between the object and the verb on the other, are asymmetrical. First, presence of object agreement in a language always implies subject agreement. Second, while both subject and object agreement by themselves imply definite pronoun -- a discourse could never begin with a verb that is inflected for person but has no other expression of the subject -- lack of subject agreement (along with lack of a separately expressed object) implies an indefinite object. In other words, both definite and indefinite subject, but only definite objects, agree.

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pronoun are incorporated, the two being in complementary distribution:

k- iʔkʷilowa	'he writes it'
λaʔkʷilowa	'he writes'
k-iʔtowa	'he says it'
λaʔtowa	'he speaks'.

This would constitute a counterexample if there were a three-way contrast such that 'he writes', 'he writes it' and 'he writes something' were all different. Compare also CHIPEWYAN (Li 1946, 416):

ʔɛldɛ́ɬ	'he is eating (several objects)'
yɛldɛ́ɬ	'he is eating them'
ʔɛsda	'I am drinking'
hɛsda	'I am drinking it'

Because of lack of sample sentences, Whorf's observation about HOPI claiming the exact opposite to our statement, about objects, can only be noted here in passing: "transitivity implies a definite third person object if none is expressed; indefinite object must be explicitly indicated by words like 'something'." (Whorf 1946, 172). Another candidate for a counter-case is MAASAI. Tucker and Tompo 1955, 71: "An important point to emphasize in this language is that, in nearly all the verbs treated so far, an object is either stated or implied. Thus, a-rany, by itself, means 'I sing it or them', a-dot, by itself, means 'I see him or her or it or them' -- not merely 'I sing' or 'I see'." (Cf. also p. 120) 'To sing', by itself, is formed by an intransitivizer: aranyisho. These statements would be significant only in conjunction with some information about how 'to see something' or 'to sing something' are expressed; but I have been unable to find pertinent data.

Given these facts, and given our hypothesis which associates agreement with extrapositions, there should be some independent evidence to indicate that subjects are always extraposed -- since, if anything agrees with the verb, they do -- and that objects are extraposed when the verb agrees with them, and not extraposed otherwise; but they cannot be both nonextraposed and participating in agreement.

A theory which claims the object is more intimately connected with the verb than the subject is of course satisfying for everyone who has intuitions about the "noun phrase plus verb phrase" type of sentence parsing, where the "noun phrase" is the subject and another noun phrase dominated by the verb phrase is the object. As a second bit of rather vague evidence about the difference in subject and object with respect to extraposition, notice that in languages which have verb compounding, objects may be "included" in verbs ("He went deer-hunting") but subjects, at least in the familiar European languages, may not. More important, there is some evidence to indicate that object-inclusion in the verb and object agreement in the verb are complementarily distributed. Consider the following sentences in HUNGARIAN:

ϕϕ zongorahɔngol	'He tunes the piano.'	"he piano-tunes"
ϕϕ eg' zongorat hɔngol	'He tunes a piano.'	"he a piano tunes"
ϕϕ a zongorat hɔngoljɔ	'He tunes the piano.'	"he the piano tunes"
*ϕϕ zongorahangoljɔ		
*ϕϕ eg' zongorat hɔngoljɔ		
*ϕϕ a zongorat hɔngol		

Similar evidence has been found in MENOMINI. Some verbs have an "inner object" such as menvah neepew 'to drink some water', but these are not considered transitive by Bloomfield's grammar (1946, 95), since they do not show object inflection. In AZTEC, Whorf (1946, 318) notes that if the object is compounded with the verb, the verb does not show object affixes but looks like an intransitive verb.[18] However, since we have observed that object agreement depends on the definiteness feature of the object, we would

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[18] Compare also CAMBODIAN (Gorgonyev 1966, 79), where a generic object is always expressed and understood with transitive verbs and when a specific object is used, the generic marker is omitted:

dam dþmnam	'to plant (something)'
dam ɔwlək'to	'to plant watermelons'
dam trþaþk	'to plant cucumbers'.

have to say that definite object -- whenever they agree -- are extraposed, unlike indefinite objects which are not. This hypothesis would assign two different structures to a sentence like "he reads a book." (with the object within the verb) and "he reads the book" (with the object extraposed). This is a dubious proposition and certainly no other evidence has been found to support it.

To finish this discussion, inconclusive though it is, we might make another empirical observation which, as we have seen in connection with agreement, combines the notions of definiteness and of the object case. Evidence from TURKISH, MODERN PERSIAN, and KABARDIAN (Trubetzkoy 1939), from BENGALI concerning one noun class (Ferguson 1964, 889), from AMHARIC (Obolensky et al. 1964, 34-5), and from ALBANIAN (Newmark 1967, 54) shows that if definiteness is inflectionally marked for any noun case, it is the object case; or, put another way, if the object case is inflectionally marked for indefinite nouns, it is always so marked for definite ones.

This claim would make the following distinctions for verb phrases: intransitive verbs, object-compounded ones, and verbs having an indefinite object belong to one group contrasted with those that have a definite object. Although, as we have seen, this differentiation is the same as one might want to set up in terms of verbal inflectional paradigms for a number of languages, it may also be noted that FIJIAN requires one more distinction: besides having intransitive verbs and verbs co-occurring with an indefinite object (which, inflectionally, look like intransitive verbs), one type of verbal suffix co-occurs with definite objects (or, alone, implies a definite pronominal object); another suffix co-occurs with objects which are personal pronouns, proper names and perhaps (ruining a generalization about "inherently definite noun phrases")[19] with the pronoun "whom?" (Churchward 1941, 17ff). For example,

sa rai koro ko koya	'He is seeing villages / a village.' "present sees village he he"
sa raica na koro ko koya	'He sees the village.' "present sees the village he he"
au a raici Tomasi	'I saw Thomas.'

[19] Whom? as being definite is not unique to FIJIAN. In MACEDONIAN, 'whom' (koga) is sometimes definite, other times indefinite as opposed to 'what' (što) which behaves as indefinite; and in PERSIAN 'whom' (ki, ke) always takes the definite postposition whereas 'what' (če) sometimes does and other times doesn't. TURKISH acts like PERSIAN (Browne 1970).

All this shows that when grammars describe co-variation of the verbal paradigm with the definiteness feature of the object by saying "the verb agrees with the object in definiteness," this phenomenon differs greatly from gender or number agreement. Notice also that definiteness, unlike gender and number, is not a selectional feature. In our view there is no verb agreement in definiteness, but agreement in general results in definiteness since it is an iteration rule and thus involves sameness. What still needs explaining is why this iteration rule, if it is part of the grammar of a particular language at all, is obligatory for subjects but is restricted in not applying to indefinite objects. This is part of the more general question of just what subjects and objects are.

Grammars talk about agreement in definiteness also in another, "noun-phrase-internal," sense. In this respect agreement in definiteness looks quite similar to agreement in gender or number. That is to say, in some languages, adjectives and relative pronouns co-vary with the article contained in the noun phrase. This is true with respect to the adjective for ARABIC (Mitchell 1956, 15), HEBREW, GERMAN, and ICELANDIC (Einarsson 1967, 50ff) and with respect to the relative pronoun for ARABIC (Cowell 1964, 356) and COPTIC (Till 1961, 225ff). The common property of noun-phrase-internal definiteness and gender-number agreement is that the realized value of that feature can differ from what it is noun-phrase-externally. The difference is that whereas gender-number agreement was described in terms of a selectional feature (when outside the noun phrase) and a lexical feature (when inside), definiteness is neither a selectional nor a lexical feature (except, possibly, for proper name lexical entries). But then what kind of feature is it? We will not attempt here to give a more conclusive account of what agreement in definiteness means.

3.2.4. Person. A cross-linguistic exploration in some breadth of sentence constituents specified for "person" gives rise to a number of questions, such as:

1. Why is gender more commonly distinctive in third person pronoun forms than in other personal pronouns?[20]

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[20]Compare Greenberg 1963, universal #44: "If a language has gender distinctions in the first person, it always has gender distinctions in the second and third person or both." This statement allows for the following combinations:

a. gender in second person only
b. gender in third person only (e.g. ENGLISH)
c. gender in second and third person only (e.g. HEBREW)
d. gender in first and second person only
e. gender in first and third person only (e.g. GUMULGAL)
f. gender in first, second, and third person (e.g. KAKADU)

and excludes g. *gender in first person only.

2. Why is number universally distinctive with respect to the first person rather than other personal pronouns?[21]

3. Why are plural personal pronouns generally irregular compared with nominal (or verbal) plurals?[22]

4. Why is person agreement restricted to pronouns and verbs, and non-applicable to adjectives, numbers, or any other term?

All these questions are prompted by observations which suggest some correlation between gender and person, number and person, and definiteness and person. Thus, we will now attempt to probe into what these connections might be.

However, unless there are languages that have pattern a. and d., a stronger statement is true according to which gender in the first and/or in the second person pronoun implies gender in the third person. For some discussion of gender and person, see Forchheimer 1953, 33-37.

[21]Forchheimer (1953, 12) points out that CHINESE PIDGIN ENGLISH may be an exception to this. He also contends that "the first person distinguishes number more readily than the second and the second more readily than the third" (p. 6). In some languages, overt expression of (non-numerated) plurality is obligatory only for the three personal pronouns (CHINESE) or for the first and second person pronouns (BURMESE) or for the first person pronoun only (KOREAN). (See Forchheimer 1953, 41-2, 42-3, and 65-6, respectively.)

[22]Aspects of inflectional irregularity form the foundations of Forchheimer's typology; he presents, discusses, and classifies many pronominal paradigms. In general, if second person pronoun forms its plural by inflection rather than by suppletion, the third person pronoun does too; and if the first person plural is inflectional, so are the second and third person plurals. Similarly, if the (inflectional) plural of a second person pronoun is like a nominal plural, so is the plural of the third person pronoun; and if the plural of the first person pronoun is pluralized as a noun, so are the second and third person plurals. In other words, it apparently does not happen that the first (and/or the second) person pronoun has nominal-type plural, or inflectional plural in general, without the third person pronoun having the same kind. To refer to some languages not discussed in Forchheimer, TEWA (Yegerlehner 1959) and ORIYA (Tripathy 1957) provide examples of pronominal paradigms where all persons have the same inflectional pluralizer; CHITIMACHA (Swadesh 1946, 327) is an example of the other extreme, where all plural pronominal forms differ from each other and also from nominal plurals. HUNGARIAN and RUSSIAN belong to the well-represented type where the first and second person pronouns have suppletive plurals and the third person pronoun has nominal-inflectional plural.

As for question #1 concerning gender-person correlations, all we can say is that one might reasonably expect overt gender distinctions to be more common in constituents which have many different gender possibilities. Now, if gender includes features such as humanness and animacy, then it is clear that some aspects of gender are redundant for first and second person pronouns, but not for third person. In particular, a proper account of verb selection, for instance, requires that first and second person pronouns be marked as human and animate. Third person pronouns, on the other hand, are viewed here as reduced noun phrases which may therefore refer to anything. In other words, the fact that some gender distinctions in the third person are never made in the first and second person is a simple corollary of the fact that speech can occur between humans only but about anything human or nonhuman.

This reasoning accounts for the absence of animacy and humanness distinctions but not for the infrequency of overt sex specifications in first and second person pronouns. Although no explanation can be offered, it should be pointed out that even if inflection does not generally signal sex in these pronouns, they are required to be specified in some way for sex gender for proper agreement in languages where the predicate agrees in gender (e.g. FRENCH tu es venu and tu es venue); and for proper selection in all languages (e.g. you (feminine) are pregnant but *you (masculine) are pregnant).

Given the understanding that first and second person pronouns must be, predictably, specified as human and animate, the second observation (question #2) that overt plurality marking in the first person pronoun is a universal can be, if not explained, at least placed in a wider factual context. The following correlation holds for all languages examined: overt marking of plurality in nonhuman (or inanimate) noun phrases implies that plurality is overtly marked in human (or animate) noun phrases of that language. Only animate nouns have plural marking in TELUGU and TETON (Forchheimer 1953, 101 and 85) and in TEWA (Yegerlehner 1959). In YUROK (Robins 1958, 23) only a few nouns have plural markings and these appear to refer mainly to humans. In WUNAMBUL all human nouns -- and only those -- have plurals (Forchheimer 1953, 35), and in MAIDU (Forchheimer 1953, 44) and CHITIMACHA (Swadesh 1946, 319) only (but not all) human nouns. This distinction is borne out in agreement as well. In UP-COUNTRY SWAHILI the animate but not "general" demonstrative has number distinction (Alexandre 1967). In ARABIC, if the subject is plural inanimate, the predicate adjective may be plural or singular (feminine), whereas plural agreement is required for animate subjects (Ferguson and Rice 1951).

In ANCIENT GREEK, plural neuter subjects take singular third person agreement in the verb. In AMHARIC, conjoined animate singular subjects require a plural verb, while conjoined inanimate singular subjects may take a masculine singular verb (observation supplied by C.A. Ferguson). In HUNGARIAN, plural and singular verb forms are in more or less free variation after a subject phrase which conjoins singular nouns; but plural verb forms are more often used after conjoined singular human nouns. Most Turkic languages have obligatory pluralization only for human noun phrases. In TEMNE, if the subject phrase is a conjunction, the plural predicate form must be used if the first member of the conjunction is plural; if it is not, the singular or the plural predicate form may be used if the subjects are animate (or human?), but if they are inanimate (or nonhuman), only a singular predicate form may be used (see footnote 5).

Given the fact that first person pronouns are always human and animate, the above-demonstrated correlation between human-animate gender and number marking would predict overt plural marking for all first and second person pronouns in languages which have plural marking for non-human (nonanimate) nouns. This claim, however, is different from the statement we are trying to explain: it is, in one sense, a more general claim in that it concerns not only the first person pronoun but both first and second person pronouns; on the other hand, it is more restricted in not predicting universality of overt plural marking for the first person pronoun. In other words, the connection between overt number marking and animacy, mysterious as it is itself, at best only partially explains the universality of overt number marking in the first person.

What most of the above considerations bear out is a substantial commonness between nouns and pronouns: both have gender and number, and the correlation of these two appears to lie in the same direction. Question #3, on the other hand, points up a difference between nouns and pronouns in the morphophonemic means whereby their plurals are overtly manifested. In trying to explain this difference, let us consider what plurality really means for pronouns compared with nouns. We have concluded that all plural noun phrases are underlaid by some coordination of (predictably) singular noun phrases and that superficially conjoined, numerated, or pluralized nouns are all alternative derivatives of such structures. Assuming, as the simplest hypothesis, that things are the same for pronouns, we would have to posit underlying structures such as "I and (another) I", "you and (another) you", and "he and (another) he" and then derive from them "we", "you (plural)", and "they", surface coordinations such as "I and I", "you and you", and "he and he", and numerated pronouns such as "two we", "two you", and "two they". However, superficially numerated personal pronouns are ungrammatical in various languages, superficial conjoining of two "I"-s is ungrammatical, and of two "you"-s, at best questionable.

In other words, deviance of personal pronouns compared with nouns in the morphophonemic realization of their plurality turns out not to be an isolated difference between pronouns and nouns but one that is matched by a difference in their "otherability" -- a condition of conjoining -- and thus in their surface numeratability. The question now is whether the generality of the statement according to which plurality is not a primitive in linguistic theory and all plurals can be derived from coordination must be given up by restricting it only to nouns and we must say that plurality for pronouns is not derivable from conjoining. However, there are compelling arguments for deriving pronominal plurals from pronominal conjunction. Specifically, in all languages which have verb inflection, a verb form used after a particular subject that consists of conjoined personal pronouns is also used after some "plural" pronouns, e.g. GERMAN Du und er schreibt and Ihr schreibt. Considering the complexity of a grammar that assigns the same verb inflection by two different rules depending on whether it occurs after a "plural pronoun" or after a "conjunction of pronouns", and considering the obvious synonymy relationship, it becomes clear that plural pronouns must, in fact, be derived from structures containing conjoined personal pronouns, and from a general law that assignment of plural forms such as "we" is in terms of whether the set includes the first person pronoun (when the plural form is first person) or, if not, whether it contains a second person pronoun (when the form is second person).

More evidence for the usefulness of deriving pronominal plurals from a conjunction of singular pronouns will be presented later. One additional supporting fact which may be adduced is that in some languages even the morphological structure of plural pronouns shows a corresponding stucture. Compare for instance the pronominal paradigm of EWE, KELE, and NKOSI (Forchheimer 1951, 132-5) or of BAMILEKE (Voorhoeve 1967, 427):

bãg-jé	"we-he"	'we (I and he)'
bãg-u	"we-you (sing.)"	'we (I and you (sing.)'
bĩn-jé	"you (pl.)-he"	'you (pl.) (you (sing. and he)'
bõ-jé	"they-he"	'they (two)'

Notice that the order of elements in such pronouns is always first person followed by second/third and second person followed by third, and that the plural set always precedes.

Nouns and pronouns thus do turn out to be similar in deriving their plurals from the same kind of underlying coordination; they differ only in their surface numeratability and conjoinability which are underlaid by the fact that referentially different but otherwise identical nouns exist, but such (first and second person) pronouns do not. To shed some light on the precise nature of this difference, consider that whereas personal pronouns

may differ in these respects from many noun phrases, they do not so differ from all noun phrases. Let us take a second look at surface numeration. Two books is grammatical and *two we (or *two I's) is not; *two the books or *two these books are equally ungrammatical. On the other hand, two of the/these books and these two are grammatical and so are two of us or we two. (For numerating personal pronouns, a possessive construction is also used in GERMAN, HUNGARIAN, and KEBU (Wolf 1907, 796).) This shows that the feature which distinguishes personal pronouns from indefinite noun phrases -- their non-numeratability, underlaid by their "non-otherability" -- lumps them together, on the other hand, with definite noun phrases.

In fact, a host of evidence indicates that personal pronouns are treated as definite noun phrases in various languages (for ENGLISH, see Postal 1966). Personal pronouns have an object marker in TURKISH (Lyons 1968, 276) just as demonstratives, possessed nouns etc. do. In FIJIAN the verb has a special suffix if the object is a proper name, the pronoun "whom ?" or a personal pronoun (Churchward 1947, 17ff). In NORTHERN PEKINGESE the word order rules that apply to definite noun phrases also apply to personal pronouns (Mullie 1932, 58).[23]

But if personal pronouns are definite, then they cannot be restrictively modified or possessed, either (just as, for instance, proper names, if they are used in their "proper" sense, cannot). In other words, the claim that personal pronouns are definite accounts for their nonoccurrence with restrictive relative clauses and with restrictive adjectives and possessor phrases. This restriction on their co-occurrence properties renders question #4 inapplicable and thus explains the data gap referred to there.

In sum, it seems that both questions #3 and #4 can be answered by making the single assumption that personal pronouns are definite, because the concept of definiteness adopted here equates definiteness with uniqueness: it is assumed that every definite noun phrase is represented in the grammar as a one-member set. Personal pronouns, therefore, cannot be numerated since something that is the only one of its kind cannot be said to be "many"; they cannot be modified since modification implies distinguishing among members of a set and there is only one member here.

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[23] A curious case is presented by HUNGARIAN, however, where the transitive verb shows the "indefinite inflectional paradigm" if its object is a first person or second person pronoun, instead of showing the paradigm that goes with definite objects.

In this view, definiteness excludes numeratability in asserting oneness, whereas number asserts manyness. On the other hand, the process of definiti zation whose output is a claim about uniqueness presupposes manyness as its input. Syntactic definitization and syntactic num ration are both viewed as processes whose domain is the discourse and whose operation is determined in terms of identity and nonidentity of reference. In particular, coordination of referentially nonidentical sets is the semantic condition on numeration; coordination of sentences where at least two noun phrases have the same reference is the semantic condition on definitization.

Having attempted to motivate some assumptions about the nature of personal pronouns, we will now give the outline of some axioms and rules of a universal grammar that are pertinent to "person". In order to account for person differences in pronouns and verbs, we tentatively suggest that the following features are necessary and sufficient to constitute part of the axiomatic basis for a universal grammar: Speaker, Addressee, and Other.

"Other" provides a maximally economical way, suggested by Sanders (1967, sec. 4.7), to mark noun phrases that have different references. The status of these three features is, in one sense, the same: noun phrases which differ in terms of any of them can be coordinated; noun phrases which do not differ with respect to one of them, cannot. The difference between them is that Speaker and Addressee, but not Other, constitute the input to redundancy rules which predict Human, Animate, and Definite for sets which include them. (McCawley 1968, 158 discusses alternatives for representing Speaker and Addressee.) The claim that person agreement is really a kind of sameness-otherness agreement makes it similar to "definiteness agreement"; some relation between them is shown too by the fact that although all other kinds of agreement features also turned out to be selectional, definiteness and person are never distinctive for selection.[24] While there is no reason why sets which include Speaker should not be specified as definite, i.e. allowed to be "otherable", one might argue for the otherability of sets which include the second person feature, on the basis of sentences such "You and you should go", where the two "you"-s are meant to have different singular references. Given that such sentences are always in need of some deictic aid for proper interpretation (they could never be used in a telephone conversation), and thus they differ from "normal" sentences, it does not seem unreasonable

[24] The so-called impersonal verbs which must take the third person singular such as LATIN oportet or ENGLISH it rains are restricted not really in person but in animacy of their surface subjects; the fact that it must be, in particular, a neuter singular pronoun or (an) embedded sentence(s) automatically restricts the choice of persons to the third.

to assert that such sentences really belong to two different paragraph domains in a discourse, such that Speaker has the same identity in both but the Addressees are different. One argument for this alternative is that assuming a non-otherable Addressee can explain the definiteness of the second person pronoun. Another argument tilting the scale in the same direction will be presented later.

The third person pronoun is derived by two interrelated processes: one is noun phrase reduction, or pronominalization, the other is definitization. Nonreferential identity is required for pronominalization (reducing noun phrases, in ENGLISH, to "one"); referential identity is required for definitization; and third person pronouns as they appear in pronominal paradigms are the product of these two processes. Deriving third person pronouns, but not first and second person pronouns, from noun phrases is tantamount to making the claim that third person pronouns differ fundamentally from the other two. That they do in fact differ can be demonstrated by a number of syntactic rules in various languages which can be formulated as applying to either third person pronouns or first and second person pronouns (but not, for instance, to second and third person pronouns excluding first person forms). Some evidence for this has already been pointed out in connection with the morphophonemics of plural pronouns. Ordering provides more proof. In ATHAPASCAN languages the order of morphemes within the verb varies according to whether the pronominal subject is third person or other (for CHIPEWYAN, see Li 1947, 411; for APACHEAN, see Hoijer 1945, 195-6). Another kind of evidence comes from inspection of the possessive pronoun paradigm in NGWE (Dunstan 1966, 88): pronouns whose underlying sets include the third person have low-high tones; all others have high or a complex pattern which includes high but differs from low-high.

Besides making the assumption that the features Speaker, Addressee, and Other are underlyingly assigned to sets of nominal features, we assume that feature sets which comprises them are parts of an underlying coordinated structure. Next we will consider lexicalization rules that apply to coordinations which contain various combinations of these features. The proposed rules may be informally sketched as follows:

(X is any reduced noun phrase)

1. Speaker + X = 'we'
2. Addressee + X = 'you (plural)'
3. X + X = 'ones' or 'they', depending on whether at least one X is definite or not
4. a. Speaker = 'I'
   b. Addressee = 'you (singular)'
   c. X = 'one' or 'he/she/it', depending on definiteness and gender.

The first three rules are optional (but 3. cannot be taken without scanning 1. and 2. for applicability, and 2. cannot be chosen without scanning 1.); the other three rules are obligatory. Thus, for instance, 4.a. and 4.b. would yield a string like "I and you (singular)", provided 1. was not chosen; if it was, the output is "we". The first three rules are ordered; the second three are ordered with respect to 3. but not with respect to each other. The rules could, of course, be left unordered, but then, as is obvious, they would have to be stated in more complex form. An unintended and welcome consequence of the simplest ordering of these rules is that it yields a representation of the markedness hierarchy among personal pronouns.[25]

The same distinctions, when included in verbal sets, would be lexicalized as verb inflection. In sum, primitive features such as Speaker, Addressee, and Other, an underlying coordinative structure, syntactic rules that include reduction and definitization, and the above-sketched lexical rules appear to be proper mechanisms for distinguishing, in a motivated way, "standard" person differences. Next, we will consider languages with different or additional person distinctions.

Let us consider the possibilities for the identity of the variable X in the above rules. In rules 2. and 3., X cannot be Speaker since all combinations involving Speaker have been operated on by rule 1; it cannot be Addressee in rule 2. since only one Addressee is possible; and it cannot be Addressee in rule 3. since any combination including Addressee has been taken care of by rule 2. Thus, in these two rules, X can be only a definite or an indefinite third person pronoun. The choice is less restricted in rule 1: here X cannot be Speaker since only one possible Speaker is mentioned explicitly in the rule; but it can be either Addressee or a third person pronoun. Whether X is second or third person in rule 1. is nondistinctive in most languages: both "I and you (singular)" and "I and he" correspond to "we". On the other hand, this choice is distinctive for the form of the first person plural pronoun in many languages; these are generally described as recognizing an exclusive and an inclusive first person plural pronoun. In QUECHUA, for instance, ñuxa means 'I', ñuxayku means 'we not including you' and ñuxančik means 'we including you'

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[25] The significance of ordering rules for representing personal pronouns was pointed out and demonstrated to me by Professor Greenberg. An argument for ordered lexical rules in general and a demonstration of their representing marked-unmarked distinctions in gender is given in Sanders 1967, section 3.36.

(Wonderly 1952. 369-70).[26] For these languages, rule 1. must be split into two rules depending on whether X is a second or a third person. The revised rules along with the old ones are the following:

Languages without exclusive-inclusive[27]

1. Speaker + X = 'we'
2. Addressee + X = 'you (plural)'

Languages with exclusive-inclusive

1. Speaker + Addressee = 'we inclusive'
2. a. Speaker + X = 'we exclusive'
   b. Addressee + X = 'you (plural)'

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[26] A list of languages having this distinction is given in Forchheimer 1953, with no claim for exhaustiveness. His list includs the following: ALGONQUIAN, BALTIK, BERBER, CHINOOK, COOS, DYIRRINGAN, PIDGIN ENGLISH, EWE, FULANI, GARO, HAWAIIAN, IROQUOIAN, KAMILAROI, KANAURI, KIOWA, KWAKIUTL, LAKOTA, MALAY, MAYA, MELANESIAN, MIKIR, ORDOS MONGOL, MUNDARI, NOGOGA, NKOSI, NUBIAN, OLD NUBIAN, OTOMI, SOUTHERN PAIUTE, PAPUA (BONGU, KATE, NYUL-NYUL, SAIBALGAL) PURIK, ROTUMAN, SHOSHONE, SIERRA POPOLUCA, SIOUSLAWAN, SOMALI, TAGALOG, TAMIL, TELUGU, TUNGUS, WINNEBAGO, WORORA, YOKUTS. I can add the following: BAKI, BAMENDJOU, BAMILEKE, BANGANGTE, BIERIAN, FIJIAN, FUTUNA, GILYAK, ILOCANO, MALEKULA, MALOESE, MARANAO, NGWE, QUECHUA, TANGOAN, TANNA.

[27] Morphologically, the first person inclusive pronoun tends to resemble the second person singular, and the first person exclusive from the first person singular; if either of them is morphologically "dissectable", it is the exclusive. This widely documented observation was first pointed out to me by Professor Greenberg. For an interesting pattern, see the subject suffixs in QUECHUA. All plural pronoun suffixes contain either the pluralizer -ku or the pluralizer -cis: -ku added to (a variant of) "I" gives "we exclusive", added to "he" it gives "they"; -cis added to "I" gives "inclusive" and when added to "you (singular)" gives "you (plural)".

If ordering of (at least some) lexical rules indeed expresses something about markedness hierarchies, it is worth investigating what is implied about markedness of persons in languages with the exclusive-inclusive distinction in the first person plural. If we compare the two sequences of rules, it is clear that the third person is unmarked according to both orderings; but in the second system no hierarchy is expressed for the first and second persons, since the rules that refer to either of them separately (1.a. and b.) cannot be ordered in a nonarbitrary way: the rule that is ordered as prior, i.e. containing the "more marked" element (1.) is one that mentions both of them. Since, for languages without the exclusive-inclusive distinction, the second person is represented as less marked than the first and since in languages with this distinction the first and the second persons are on the same level of markedness, we might expect that in this latter type of language the second person would in general be more particular than in other languages. This expectation is in fact borne out. For instance, in ALGONQUIAN, Bloomfield's data allow the following generalization: if the second person is involved as either subject or object (or "actor" and "goal", in Bloomfield's terms), the verbal prefix will be a second person prefix. If neither is second person but one is first person, the prefix is first person. Or, as far as Quechua is concerned, Wonderly's data do not contradict the following rule: for transitive verb forms where the verb indicates reference to the person of both subject, the order of these personal suffixes is such that if the second person is involved as either subject or object, its reference will be word final; if it is not involved, the third person reference will be word final. It might also be of interest that in the Cuzco dialect of QUECHUA, the future forms are regular except in the second person plural (Yokoyama 1951, 56ff). All these rules are best formulated so that their applicability hinges on second person forms; this constitutes some indication of the markedness of the second person in these languages, contrasted with other languages where there are no general syntactic rules formulated with mention of second person forms only; this evidence is independent of that offered by the required order of lexical rules. All this shows that languages with the exclusive-inclusive distinction could perhaps be characterized in general as those where the second person is usually more marked than in other languages; the exclusive-inclusive distinction would be only one manifestation of this.

One might expect there to be languages where some other ordering of the personal pronoun lexicalization rules becomes necessary, such that the third person is assigned a more marked order than the first and/or the second. It should be pointed out that none of the other conceivable hierarchies have been encountered. The constancy of the third person as unmarked in both language types mentioned above again points to the fact that the third person is a basically different category from the first and the second person.

Lyon suggests (1968, 277) that, in principle, a similar exclusive-inclusive distinction might be made in some languages in the second person plural. What would such a distinction imply? It would have to be one between "you and he" as opposed to "you and you", since the combination "you and I" belongs to the domain of the 'first person rules". Such a distinction is excluded, however, by our tentative system which allows only one Addressee. If there are indeed languages with such a distinction in the second person plural, our system will have to be changed or the fact would remain unexplained. In such languages, we would also expect a definiteness distinction for second person singular pronouns: if there are more than one of the same kind, it is possible to speak about "the same Addressee" i.e. one already identified, or about "another Addressee". Since no such language has so far been found,[28] we conclude that the non-occurrence of this logically possible distinction is a further argument for the sufficiency of only one (and thus definite) Addressee per paragraph, thus rendering this gap in our data into a "systematic" (i.e. accounted for) rather than "accidental" (i.e. empirical) gap.

Besides exclusive and inclusive forms, another observed "exotic" person category is the obviative. We will next consider what modifications, if any, of our tentative system are required to accomodate this category.

Languages with the category "obviative" or "fourth person" belong to the ALGONQUIAN and to the ATHAPASCAN groups.[29] All descriptions agree that this is a distinction made with respect to an animate noun, and that it is to distinguish one (third person) noun from another (third person) noun.[30] Nowhere is it said to be a pronominal category; only nouns and verbs have this distinction. Number distinctions do not exist in ALGONQUIAN. Although descriptions leave room for choice of the particular third person animate noun in the sentence that is to be in the obviative, if the sentence contains more than one of them, generally it seems that the obviative is a category of the direct or indirect object, rather than of the subject, a category of the possessed item, rather than of the possessor, and a category of the comment, rather than of the topic.

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[28] F. Householder suggested, however, that the distinction between vous and vous autres in FRENCH may be just this.

[29] For ALGONQUIAN, see Bloomfield 1946, 94: for POTAWATOMI, in particular, see Hockett 1948, 7-9. For NAVAHO, see Hoijer 1945, 195ff, for CHIPEWYAN see Li 1945, 402; for CHIRICAHUA, see Hoijer 1946, 76.

[30] However, Hockett remarks (1948, 8) that obviation is also possible with respect to inanimate subjects and intransitive verbs and Bloomfield (1946, 94) hints at CREE and OJIBWA using the obviative even if the other person referred to in the sentence is first or second person.

Although the facts are not very clear, it seems reasonable to assume that what is needed to account for obviative forms is some otherness distinction for nouns. Otherness distinctions, as has been generally recognized, are required for all languages to account for definite and indefinite forms. Thus it seems that the same mechanism which is necessary to account for a universal definiteness distinction for the third person pronoun, is also sufficient to explain the obviative. Definite and obviative forms would thus be complementary: given two nouns, if the second is the same as the first, it is specified as definite; if the second (or rather one of them, defined in some nonsequential sense) is a different one, it is marked by the obviative. Both processes seem to work across sentence boundaries. Obviation -- but not definitization -- however, is restricted to animate nouns.

A further interesting indication that the obviative is just a surface realization of the otherness feature is the following. A "farther obviative" is described for POTAWATOMI and for CREE; it is used if three nouns are involved. In POTAWATOMI, the "farther obviative" is simply marked by the reduplication of the obviative affix. This apparent recursivity of the obviative and its morphologically-recursive morphological manifestation is in complete harmony with the recursivity of "other" which Sanders assumes to distinguish three things referentially as "one thing", "another thing", and "another other thing". Accordingly, "a man" would be a third person form and "another other table" would be a reduplicated i.e. "farther" obviative.

Underlying otherness dictinctions are, of course, multiply motivated even apart from definiteness and obviative distinctions.[31] In particular, they are necessary to explain certain distinctions made in nonsubject terms such as "reflexive" and "reciprocal" forms (for object-type constitutents) and as the "recursive" or "reaffirmative" (for possessors). Regarding possessors, in CHIPEWYAN (Li 1946, 402, 415), the otherness of a third person possessor (or object) is overtly expressed, given a third person subject in the sentence. In other languages such as RUSSIAN, HUNGARIAN, LATIN or HOPI (Whorf 1946, 170) and ESKIMO (Swadesh 1946, 40ff), it is the sameness of the possessor with the subject that is marked.

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[31] Besides accounting for definite, indefinite, and obviative noun phrases, otherness distinctions in the third person pronoun seem to be needed to understand the complex pronominal paradigm of BAMENDJOU (Tayoumo 1969). A peculiar feature of this system is that besides "regular plurals", there are special forms glossed as referring to a plural set plus an additional "he" or additional "others". These pronouns all contain i ('he', by itself) and apo (compare op 'they)

It seems that some considerations in connection with plural reflexives, reciprocals, and recursives lead to more argument in favor of analysing plural pronouns as underlain by a conjunction of singular pronouns. ESKIMO contributes some evidence. Some of the conditions under which the "recurrent" in ESKIMO is used are the following: given a third person subject, the recurrent is used for a third person possessor in the same or in a subordinated clause, for the subject of a subordinated clause, or for the object of a subordinated clause, if the subject of that clause and the object of the main clause are also identical in reference. Swadesh points out that, given these conditions, the recursive is also used if the subject of the main clause is not that particular singular third person but a plural such that it includes that third person; e.g. in the sentence "When they arrived, he himself (i.e. one of those referred to by "they") died." This shows that if we are to maintain the simplicity of the statement about identity of terms by which use of the recurrent is determined, the third person plural pronoun must be represented as consisting of singular members.[32] Second, it is instructive to notice that in certain languages phrases turn out to be ambiguous between reflexivity and reciprocity. In FRENCH, for instance,[33] a sentence like Nous nous aimons appears ambiguous in at least two ways: either everybody likes himself or everybody likes everybody else. (A third meaning would be that the group likes itself as a group. On reflexives and reciprocals, see McCawley 1968, 146ff). This ambiguity could be explained as follows, assuming that "we" includes "I", "you", and "he", the reflexive meaning would be underlain by the following relations: "I love me", "You love you", "He loves him". The reciprocal meaning, on the other hand, would be provided by the following: "I love you/him", "You love me/him", "He loves me/you". The question is why should the two sets of underlying objects i.e. "me and you and him" and "you and him and me and him and me and you" both be realized as the first person plural pronoun? This is explained if coordination is conceived of as a union of sets, since the union of both these sets is just "me and you and him" which, for independent reasons, discussed above, must be lexicalized as the first person plural pronoun anyway.

Agreement properties of personal pronouns are the same even if they are used in some particular sense such as when no-second person forms are used in referring to the Addressee. Exceptions to this have been found in

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[32] Notice that the same kind of usage does not apply to reflexives. For instance, in ENGLISH, both *We hit myself and *We hit me are ungrammatical.

[33] A. Bell provided data here and discussed the issue with me.

FINNISH, where the plural second person can be used to refer to a singular second person, and the predicate then may be in the singular (Mey 1960, 105ff); in FRENCH where vous when referring to singular takes singular predicate adjective although the verb is plural (C.A. Ferguson's observation), and in ANCIENT GREEK where if a woman in a tragedy uses the plural first person when speaking about herself, an agreeing adjective or participle may be in the singular (Smyth 1956, 271). Polite or less intimate forms of referring to the Addressee can all be characterized by increased paradigmatic remoteness from the first person. That is to say, these forms, if identifiable at all, are either third person or some plural forms.[34] The following chart provides some examples:

Persons used to refer to Addressee less intimately:	Singular 3rd	Plural 2nd	Plural 3rd	Special Pronoun
Languages:	HUNGARIAN (reflexive) GILYAK (Austerlitz 1959)	FIJIAN (Churchward 1947, 25ff) FRENCH ITALIAN GILYAK (Austerlitz 1959)	GERMAN ITALIAN	AMHARIC (Obolensky, Zelelie Andvalem 1964, 23-4) TIGRINYA (Forchheimer 1951, 30) ORIYA (similar to reflexive) (Tripathi 1957, 81)

In polite or reverential reference to the third person, the plural third person is used in FIJIAN (Churchward 1947, 25ff); the obviative in CHIRICAHUA (Hoijer 1946, 76) and a special form in NAVAHO (Hoijer 1945, 197). Polite style pervades the entire pronominal system in CAMBODIAN: all three persons have alternatives according to this style (Gorgoniyev 1966, 72). Similarly, agreement properties of personal pronouns are generally the same when they are used in an indefinite or "generic" sense. In ENGLISH for instance, many personal pronouns (I, you_s, we, you_p, they) may be used, under certain conditions, with no deictic connotation, just to represent "one" or "people". This extension of meaning stems of course from the representation of all personal pronouns as including the meaning element "any human being". Notice, however, that in YUROK, where the second person plural is used for "general subject", the prefix of such verbs may be in the third person singular, while the suffix would signal second plural (Robins 1958, 35-6, 50).

[34] In some languages, however, such as BENGALI, these polite forms cannot synchronically be regarded as obviously third person or plural forms.

As to gender, if plural pronouns make such distinctions, they are predictable in terms of their components' gender and of a general markedness hierarchy defining which gender is "prevailing". Subdistinctions within number are the same as for nouns, i.e. dual, trial, etc. It might be pointed out that although there are languages with an exclusive-inclusive distinction in the first person plural and a dual distinction only in the inclusive but not in the exclusive form (such as SOUTHERN PAIUTE, see Forchheimer 1951, 88), and also languages with a dual form in both the exclusive and the inclusive forms, no language has been encountered which distinguishes a dual and a plural in the exclusive but not in the inclusive form.

3.2.5. Other features . Besides gender and referential features, sentences must, axiomatically, include two other kinds of feature. One specifies the functional relationship between the predicate of the sentence and (some of) the noun phrases. These we might call case features. Also, sentences differ depending on whether or not their predicate includes a negativity element.

Case features presumably belong to the set of "generic features". A grammatical sentence is based, according to the "generic includability condition", on an underlying structure where all noun phrases are specified for a certain case and all these case specifications are also made within the predicate. In other words, cooccurrence restrictions of this sort between noun phrases and the predicate, traditionally termed government, would be represented as case agreement in this view. Case features of noun phrases are, in some languages, superficially marked by order, inflection, or suprasegmental phonological features. Case features, just as other agreement features, are noun phrase features in that all constituents of a noun phrase must be superficially marked for that feature if the language has any means of marking them.

By arbitrary decision, case and negativity agreement have been largely ignored in the course of this project. One observation, however, could be made in connection with negativity agreement. Indefinite noun phrases are more likely than definite ones to "absorb" the negativity element and to occur in "double negative" constructions. This is true for pronouns (notice that whereas ENGLISH, GERMAN, HUNGARIAN, and RUSSIAN have negative indefinite pronouns, they have no word for "not-he" etc.) and also for nominal noun phrases (notice Kein Mann hat es gesehen as opposed to Der Mann hat es nicht gesehen, and that in the corresponding sub-standard ENGLISH and HUNGARIAN sentences the predicate would be negated in both cases and, in case the subject is indefinite, that noun phrase as well). The double negative is used in AMHARIC only optionally and only if the subject of object pronoun is indefinite (Obolensky, Zelelie, Andvalem 1964). In HAUSA, on the other hand, the double negative is the standard construction regardless of definiteness (Robinson 1930, 15).

On the basis of our cursory analysis of some data, it is tentatively assumed that the generalization about number and definiteness according to which the marking of these categories in nouns implies the marking of the same category in pronouns holds with respect to case and negativity as well.

4. Conclusion

Two characterizations of agreement have been kept in view throughout this paper. As an operational definition, we first assumed, in accordance with time-honored tradition, that there is a distinct and significant relationship between two or more phrases if they share some nonphonological feature whose value, along with some formal manifestation thereof, covaries in those phrases (see 2). Second, in terms of the particular linguistic theory which best accounts for various observations about concordial phenomena, we have found that agreement is characterized by two rules: extraposed iteration of a noun phrase that is included in the predicate and subsequent deletion of the species-features of the predicate-internal noun phrases. In section 3 we discussed certain facts that fall within the scope of both concepts of agreement.

The chief purpose of this section is to restate what we have come to consider as a tentative framework for explaining agreement. But before we do this, let us broaden our view and survey some of the observations that are not described by our adopted rules, although they are within the scope of our 'operational definition"; and let us also consider phenomena that are beyond even the loose framework of this operational definition but which still bear some commonness with what we understand to be agreement and see whether it is possible to state such similarities.

There is a general tendency for speakers of a language (and probably for any human behaving in some way) to preserve homogeneity in terms of some feature for a certain temporal unit of their behavior. One of the many linguistic phenomena that fall within the scope of this extremely general and, accordingly, extremely vague statement is that utterances tend to be monolingual rather that polylingual; that is, parts of a discourse usually "agree" in language throughout. The tendency for code-preservation holds for style, rather than language, as well. This is true for both "participant-based" styles such as social dialects and "situation-based styles" such as "polite" versus "informal".[34] What these all have in common with, let us

[34] Gumperz 1966 points out that a sentence which includes both forms like goin' (as a variant of going) and to purchase (as a variant of to buy) violates some "cooccurrence restrictions" of social code. For some discussion on differences between "grammatical selection" and "choice of style", in connection with JAPANESE honorific language, see McCawley 1968, 135-6.

say, gender agreement is that a particular feature, ("masculine" or "polite") is repeatedly manifested within a stretch of speech such that the distribution is predictable. The question now is whether a treatment of agreement that omits consideration of such facts about styles can be justified, or whether it must be judged incomplete. The answer proposed here affirms the first alternative. What it means for agreement in style or language to be participant-based or situation-based, and for agreement in grammar to be reference-based, is that there is no general theory whose axiomatic system, assumed domains and types of rules would be general enough to allow for predictions of "sociologinguistic-type" and "grammar-type" facts and, therefore, there is at present no meaningful way of stating observed similarities in the domains of what are now two different disciplines.

Chomsky points out (1965, 175), that rules which assign grammatical agreement features to a consitutent in the context of another constituent with those same features "are quite analogous to the rules of assimilation of the phonologial component". (For a similar insight, see Lamb 1966, 27.) Indeed, the tendency for a phonetic string to preserve homogeneity in terms of some feature (and, accordingly, for phonological descriptions to predict the distribution of multiple representations of that feature) is widely evidenced. It seems, however, that since standard grammatical theories and standard phonological theories are formulated as essentially distinct, all that one can do is to acknowledge this similarity between grammatical and phonological agreement as essentially accidental, as Chomsky does. The only recent linguistic metatheory proposed that actually claims monotheoricity for semantic, syntactic, and phonological accounts is that of Sanders (see especially section 3, 37). In his framework, an iteration-type transformation would account both for agreement and phonological repetition. Although the feasibility of his suggestion has thus far been scarcely demonstrated, it is clear that a treatment of agreement which excludes sociolinguistic phenomena should be more readily acquitted of arbitrarily restricting data than one which completely ignores phonological phenomena.[35]

Turning now to facts that fall within the scope of the operational definition of agreement we have been assuming (i.e. that are neither phonological nor sociolinguistic), we still find a wide range of facts all showing redundant manifestations of a particular feature within a stretch of speech. Let us see whether these are concordial phenomena or not. One such set of facts

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[35] One interesting difference between the way agreement and assimilation work that could in such a framework be stated and possibly accounted for is in the ways ordering plays a role. In particular, assimilation is often anticipatory whereas if agreement is ever "suspended" it is when the agreeing term precedes the noun phrase.

concerns the "sequence of tenses" or "mood agreement"in LATIN and ENGLISH. Jespersen points out (1924, 27ff) that one property shared by person agreement and "mood agreement" (such as the use of the subjunctive in clauses introduced by "if" in ENGLISH) is that neglect of agreement increases with the distance between the agreeing terms.[36] Another relevant phenomenon is coocurrence restrictions between generic noun phrases and verb tense in ENGLISH; notice An Englishman (generic) washes his hands before dinner. but *An Englishman (generic) is washing his hands before dinner. Because of lack of understanding of "genericity" and because "tense agreement" and "mood agreement" seem to be basically different in that they do not usually involve noun phrases,[37] these facts, although clearly grammatical, cannot be incorporated in our present framework of agreement.

Finally, consider the following grammaticality conditions:

Two boys are similar.
*A boy is similar.
She is a girl.
*He is a girl.

and compare these sentences with the following:

*Two boys is similar.
*She are a girl.

What is being violated in the ungrammatical sentences? In both sets, ungrammaticality results from the incongruence of subject and predicate with respect to number and gender. The question is whether there is any necessity and possibility for distinguishing between the two kinds of violation.

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[36] Professor Greenberg called my attention to this passage in Jesperson.

[37] In BAKI (Fraser 1891, 91) the adverb also agrees in tense with the verb:

nai mbio jouo 'He cried loudly'
nai ri rio souo 'He will cry loudly.'

The same holds for BIERIAN (Fraser 1891, 105)

The first type is generally termed selectional violation and the second, concordial violation. The obvious difference between the two is of course that whereas in the first case, the subject and the predicate as lexical entries are incompatible, in the second, the inflected part of the predicate is the one that does not match certain features of the subject. There are, however, at least two reasons why this distinction is dubious in significance. One is that there seems to be little intralinguistic or crosslinguistic constancy as to whether certain variations in meaning are expressed on the inflectional or on the lexical level; i.e. by agreement or by selection. The gender distinction between "boy" and "girl" is not marked in these nouns in ENGLISH but it is marked steward - stewardess, in the same language; it is marked by the article in FRENCH and by the noun itself in THAI (dek-cha:j - dek-jing). Therefore, the question arises whether anything at all is captured by this distinction. Perhaps significant language classifications could be set up in spite of the intralinguistic variance, but this is yet to be shown. On the other hand, there is a theoretical problem, as well, with this dichotomy. The key term here is inflection, a notion which rests on that of the morpheme, inflection being an affix morpheme and as such it is supposed to have distinct shape and meaning. Now, while -ess in ENGLISH might be characterized as meaning "feminine" there is the question of how to characterize the meaning of are as opposed to is. The difference is, of course, that are is plural and is is singular. But we have seen above that the category of number is best conceived of not as underlying, i.e. meaningful feature, but as predictable. Thus, no "singular morpheme" or "plural morpheme" can be said to have meaning in the same sense as gender morphemes.[38] This shows that the morphemic approach to agreement breaks down with respect to number agreement; the choice is between excluding number agreement from "agreement" or reconsidering the notion of inflection. The distinction between agreement and selection as based on the notion of inflection is questionable therefore, with respect to both its significance and its feasibility. But, since there is clearly some pattern behind the asserted difference, let us try to find some possible distinctions that might explain these surface differences.

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[38] This argument is adduced here from Sanders (1967, section 4.5.). Numeral agreement is of course a problem even if plurality is assumed to be a meaningful element. Phrases such as five books in ENGLISH or the agreement of the noun with a numeral in plurality in any language where the numeral has no plural inflection itself (which is the rule rather than the exception), cannot be properly described as showing agreement, since there are no two terms which covary some part of their phonological shape with the change of some semantic feature. These cases of agreement look rather like government, in the traditional sense; but analysing them as government sets these cases apart from other cases of number agreement (e.g. between the noun and the verb) and from all other instances of agreement in general - which is clearly a dubious proposition.

For one thing, notice that while gender and number are both selectional and agreement features, selection involves a more refined gender-type classification of lexical items. Second, notice that while selection always "makes sense", given a semantic representation of the terms involved, agreement might "make sense" with respect to the verb and the anaphoric pronoun but noun-phrase-internally it often does not, as we have seen. That is, selectional properties of a das Mädchen -type noun are in terms of its being a feminine noun, with respect to both the verb and the adjective; but its agreement properties with respect to the adjective will not be definable in such terms. Thus, while definiteness and person are agreement features, they are never selection features. Kind and quantity are relevant for both agreement and selection; individual identity is relevant for agreement only.

Distinctions of agreement and selection that these observations suggest are the following. First, the "generic includability condition" is necessary and sufficient to distinguish between proper and improper selection, but not sufficient to distinguish between proper and improper agreement, because agreement involves nongeneric, referential features as well. Second, if the grammar is to contain any selection rules must precede lexical rules; whereas some agreement rules must precede and others must follow lexicalization.

In conclusion: some evidence has been adduced in the course of this paper to show that facts of concord can be best understood in the framework of a grammar that assumes underlying coordinated structures and underlying semantic features such as gender marking, case, and negativity features and referential marking, such as Speaker, Addressee, and Other. Verb and pronoun agreement thus results from the sequence of an extraposition and a deletion rule. Some facts of agreement seem to be best accounted for subsequent to some ordering and lexicalization rules. The adopted theory of agreement provides a principled characterization of the set of features and terms that, according to empirical observations, participate in agreement in various languages.

APPENDIX ON DATA

These tables chart an incidental sample of my material. While the chart presented on pp. A4-A8 is meant to give information on agreement relations within one particular language. this chart is illustrative from the point of view of the crosslinguistic distribution of any one particular type of agreement such as verb agreement in gender etc.

?	indicates uncertainty of data
S	subject
O	object
Pr	possessor
Pd	possession

Agreement feature / Agreeing term	Gender	Number	Definiteness	Person	Other
Noun	Ahlõ Ahtena Akkadian Algonquian Arabic Bainuk Bierian Cambodian Congo Coptic Dakarkari Eyak(?) French Fulani Futuna(?) Hausa Hopi Kebu Latin Luvale Maasai Malekula(?) Maloese(?) Mandjaku Mbembe More Ngwe Taos Temne Togo Tunica	Ahlõ Akkadian Algonquian Arabic Aztec Bainuk Baki Bierian Cambodian Chitimacha Congo Coptic Dakarkari Eskimo Fijian French Futuna (?) Hausa Hopi Kebu Latin Luvale Maasai Malekula(?) Maloese(?) Mandjaku Mbembe More Ngwe Nzema Tanna Taos Temne Tewa Tunica Turkish Tzeltal Not Vietnamese Chinese	Arabic Fijian French German Hungarian Temne Tunica Turkish		Case: Akkadian Eskimo Futuna Hopi(?) Negativity: Zulu

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
Verb	Ahtena Akkadian Amharic (SO) Arabic Coptic Eyak (SO) Hebrew Lingala Mandjaku Mbembe Swahili Up-country Swahili Taos Temne Tlingit Not Ahlõ	Akkadian Algonguian Amharic (SO) Arabic Aztec (SO) Baki Chipewyan (SO) Chiricahua (SO) Chitimacha (SO) Coptic Eskimo (SO) Fijian Finnish French Futuna Gilyak Hausa Hebrew Kebu Kiowa (SO) Latin Lingala Luvale Maasai (SO) Malekula Maloese Mandjaku Mbembe Navaho (SO) Ngwe Nzema Oriya Quechua (SO) Swahili Up-country Swahili Tangoan Tanna Taos (SO) Temne Tewa Tonkawa (SO) Turkish Tzeltal Yurok Not Ahlõ	Amharic Fijian Hungarian Turkish	Akkadian Algonquian Amharic (SO) Arabic Aztec (SO) Baki Bierian Chipewyan (SO) Chricahua (SO) Chitimacha (SO) Coptic Eskimo (SO) Finnish French Futuna Gilyak Hausa Hungarian (SO) Kebu Kiowa Latin Maasai Malekula Maloese Navaho (SO) Ngwe Oriya Potawatomi Quechuan (SO) Tangoan Tanna Taos Tonkawa (SO) Turkish Tzeltal Yurok (SO) Not Ahlõ	

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
Predicate adjective	French Kebu Latin Luvale Spanish Russian	Finnish French Kebu Latin Luvale			
Attributive adjective	Akkadian Arabic Bainuk Coptic Dakarkari French Fulani Hausa Hebrew Latin Mandjaku More Spanish Swahili Yurok (?) Not Ahlõ	Akkadian Arabic Bainuk Chitimacha(?) Coptic Dakarkari Fijian Finnish French Hausa Hebrew Latin Maasai Mandjaku More Nzema Spanish Swahili Yurok	Arabic German Hebrew Icelandic		
Definitive article	Amharic Coptic Dagbani French Spanish Not Bainuk	Amharic Coptic Dagbani French Spanish Not Bainuk			
Indefinite article	Amharic French German Lingala	Amharic Coptic French Lingala			

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
Cardinal numeral	Ahlõ Akkadian Bainuk Chipewyan Coptic French Kebu Latin Luvale Maasai Mandjaku Mbembe Ngwe Taos Togo-languages Yurok (?)	Latin Mbembe	Akkadian		
Demonstrative	Akkadian Amharic Arabic Bainuk Bangangte Coptic Dakarkari French Fulani Hausa Latin Lingala Maasai Mandjaku Mbembe Ngwe Swahili Up-country Swahili Taos Tew Togo-languages	Akkadian Amharic Arabic Bainuk Chitimacha Coptic Dakarkari French Hausa Latin Lingala Maasai Mandjaku Mbembe Ngwe Oriya Swahili Up-country Swahili Taos Tew Tonkawa			

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
Third person pronoun	Akkadian Amharic Arabic Coptic Dagbani Eyak (?) French Fulani Grusi Hausa Hebrew Italian Kebu Latin Lingala Mandjaku Mbembe Russian Taos Thai Togo Not Ahlõ Bainuk (?)	Ahlõ Akkadian Amharic Arabic Aztec Baki Cambodian Coptic Chiricahua Chitimacha Dagbani Eskimo Fijian Finnish French Gilyak Hanunóo Hebrew Ilocano Kebu Latin Lingala Maasai Malekula Maloese Mandjaku Mbembe More Ngwe Oriya Potawatomi Quechua Tanna Taos Tewa Tonkawa Tzeltal Yawelmani Yurok	English German Gilyak Hungarian Navaho Russian		

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
Second person pronoun	Akkadian Amharic Arabic Coptic Hebrew	Ahlõ Akkadian Amharic Arabic Aztec Baki Cambodian Chipewyan Chiricahua Chitimacha Coptic Eskimo Fijian Finnish French Gilyak Hanunóo Hebrew Ilocano Kebu Latin Maasai Malekula Maloese Ngwe Oriya Potawatomi Quechua Tanna Taos Tewa Tzeltal Yawelmani Yurok			

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
First person pronoun	Thai	Ahlõ Akkadian Amharic Arabic Aztec Baki Cambodian Chipewyan Chiricahua Chitimacha Coptic Eskimo Fijian Finnish French Gilyak Hanunóo Hebrew Ilocano Kebu Latin Maasai Malekula Maloese Ngwe Oriya Quechua Potawatomi Tanna Taos Tewa Tonkawa Tzeltal Yawelmani Yurok	Loma(??)		
Relative pronoun	Bangante Cambodian Hausa Latin Lingala Maasai Mandjaku Mbembe Ngwe Taos	Finnish Hausa Hungarian Latin Maasai Mandjaku Mbembe Oriya	Arabic Coptic		

Agreeing term \ Agreement feature	Gender	Number	Definiteness	Person	Other
Question Pronoun	Akkadian Arabic Bainuk Cambodian Chipewyan Chiricahua Chitimacha Coptic Eskimo Fijian French Fulani Hausa Hopi Kebu Latin Maasai Mandjaku Ngwe	Akkadian Amharic Bainuk Maasai Mandjaku Ngwe Oriya			
Indefinite pronoun	Akkadian Chitimacha Cree French Hausa Hopi Latin Togo-languages (?)	Hausa Not Akkadian Apachean			
Classifier	Cambodian Thai				
Possessive pronoun	Akkadian (of Pd.) Baki Coptic (of Pd., Pr.) Fijian (of Pd.) French (of Pd.) Fulani (of Pd.) Futuna (of. Pd.) Hausa (of Pd., Pr.) Latin (of Pd.) Maloese (of Pd.) Mbembe Ngwe (of Pd.) Taos (of Pd.)	Akkadian (Pd., Pr.) Baki (Pr.) Chitimacha (Pr.) Coptic (Pd., Pr.) Fijian (Pr.) French (Pd.) Futuna (Pd., Pr.) Hausa (Pd., Pr.) Kebu (Pr.) Latin (Pd.) Maloese (Pr.) Mbembe Ngwe (Pd., Pr.) Taos (Pd., Pr.)		Akkadian (Pr.) Baki (Pr.) Chitimacha (Pr.) Coptic (Pr.) Fijian (Pr.) French Pr.) Futuna (Pr.) Hausa (Pr.) Kebu (Pr.) Maloese (Pr.) Ngwe (Pr.) Taos (Pr.)	

Agreement feature / Agreeing term	Gender	Number	Definiteness	Person	Other
Possessed	Algonquian (Pr.) Amharic (Pr.) Bangangte (Pd.) Chinook (Pr.?) Menomini (Pr.)	Amharic (Pr.) Bamendju (Pd., Pr.) Bangangte (Pd., Pr.) Chinook (Pr.) Chipewyan (Pr.) Eskimo (Pd., Pr.) Finnish (Pd., Pr.?) Gilyak (Pr.) Hungarian (Pd., Pr.) Hopi (Pr.) Menomini (Pr.) Potawatomi (Pr.) Tangoan (Pr.) Turkish (Pr.) Tzeltal (Pr.)			
Possessor	Dakarkari (Pd., Pr.) Luvale (Pd.)	Dakarkari (Pd., Pr.)			
Possessive particle	Fijian (Pd.) Hausa (Pd.)	Hausa (Pd.) Maasai (Pr.)			
Emphatic particle	Mbembe	Mbembe			
Adverb					Tense: Baki Bierian

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Abbreviations:

AA	American Anthropologist
AL	Anthropological Linguistics
IJAL	International Journal of American Linguistics
IL	Indian Linguistics
JAL	Journal of African Languages
JSemSt.	Journal of Semitic Studies
JWAL	Journal of West African Languages
LI	Linguistic Inquiry
POLA	Project on Linguistic Analysis

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Number Five

May 1971

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